HCD-GRX90AV/RXD10AV

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
HCD-RXD10AV
E Model
Australian Model
HCD-GRX90AV

Photo: HCD-RXD10AV (E model)

HCD-GRX90AV/RXD10AV is the tuner, deck, CD and amplifier section in MHC-GRX90AV/RXD10AV.

This stereo system is equipped with the Dolby B-type noise reduction system*.

* Manufactured under license from Dolby Laboratories Licensing Corporation.
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CD SECTION	Model Name Using Similar Mechanism	HCD-GRX80/RXD8/RXD8S
	CD Mechanism Type	CDM38LH-5BD32L
	Base Unit Type	BU-5BD32L
	Optical Pick-up Type	KSS-213D/Q-N
TAPE DECK SECTION	Model Name Using Similar Mechanism	HCD-GRX8/R800/RX88/RX99
	Tape Transport Mechanism Type	TCM-230AWR2/230PWR2

SPECIFICATIONS

Amplifier section

Center Speaker:
Continuous RMS power output (reference)
40 watts
(8 ohms at 1 kHz, 1% THD)

Rear Speaker:
Continuous RMS power output (reference)
35 + 35 watts
(8 ohms at 1 kHz, 1% THD)

Canadian model
Front Speaker:
Continuous RMS power output (reference)
80 + 80 watts
(8 ohms at 1 kHz, 10% THD)
Total harmonics distortion
Less than 0.07%
(8 ohms at 1 kHz, 60 W)

Center Speaker:
Continuous RMS power output (reference)
30 watts
(8 ohms at 1 kHz, 10% THD)

Rear Speaker:
Continuous RMS power output (reference)
30 + 30 watts
(8 ohms at 1 kHz, 10% THD)

European model
Front Speaker:
DIN power output (rated) 65 + 65 watts
(8 ohms at 1 kHz, DIN)
Continuous RMS power output (reference)
80 + 80 watts
(8 ohms at 1 kHz, 10% THD)
Music power output (reference)
120 + 120 watts
(8 ohms at 1 kHz, 10% THD)

Center Speaker:
DIN power output (rated) 25 watts
(8 ohms at 1 kHz, DIN)
Continuous RMS power output (reference)
30 watts
(8 ohms at 1 kHz, 10% THD)
Music power output (reference)
45 watts
(8 ohms at 1 kHz, 10% THD)

Rear Speaker:
DIN power output (rated) 25 + 25 watts
(8 ohms at 1 kHz, DIN)
Continuous RMS power output (reference)
30 + 30 watts
(8 ohms at 1 kHz, 10% THD)
Music power output (reference)
45 + 45 watts
(8 ohms at 1 kHz, 10% THD)

Other models:
The following measured at AC 120/220/240 V, 50/60 Hz
Front Speaker:
DIN power output (rated) 95 + 95 watts
(8 ohms at 1 kHz, DIN)
Continuous RMS power output (reference)
120 + 120 watts
(8 ohms at 1 kHz, 10% THD)

Center Speaker:
DIN power output (rated) 30 watts
(8 ohms at 1 kHz, DIN)
Continuous RMS power output (reference)
35 watts
(8 ohms at 1 kHz, 10% THD)

Rear Speaker:
DIN power output (rated) 30 + 30 watts
(8 ohms at 1 kHz, DIN)
Continuous RMS power output (reference)
35 + 35 watts
(8 ohms at 1 kHz, 10% THD)

— Continued on next page —

COMPACT DISC DECK RECEIVER

MICROFILM

SONY®

Inputs

VIDEO IN: (phono jacks)	voltage 250 mV, impedance 47 kilohms
MD IN: (phono jacks)	voltage 450 mV, impedance 47 kilohms
DVD INPUT:	
FRONT IN: (phono jacks)	voltage 450 mV, impedance 47 kilohms
REAR IN: (phono jacks)	voltage 450 mV, impedance 47 kilohms
CENTER IN: (phono jacks)	voltage 450 mV, impedance 47 kilohms
WOOFER IN: (phono jacks)	voltage 450 mV, impedance 47 kilohms
MIX MIC: (phone jack)	sensitivity 1 mV, impedance 10 kilohms

Outputs

MD OUT: (phono jacks)	voltage 250 mV impedance 1 kilohms
PHONES: (stereo phone jack)	accepts headphones of 8 ohms or more
FRONT SPEAKER:	accepts impedance of 8 to 16 ohms
REAR SURROUND SPEAKER:	accepts impedance of 8 to 16 ohms
CENTER SURROUND SPEAKER:	accepts impedance of 8 to 16 ohms
SUPER WOOFER:	Voltage 1 V, impedance 1 kilohms

CD player section

System	Compact disc and digital audio system
Laser	Semiconductor laser (λ=780nm) Emission duration: continuous
Laser output	Max. 44.6 μW* *This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block with 7 mm aperture.
Wavelength	780 – 790 nm
Frequency response	2 Hz – 20 kHz (±0.5 dB)
Signal-to-noise ratio	More than 90 dB
Dynamic range	More than 90 dB

CD OPTICAL DIGITAL OUT
(Square optical connector jack, rear panel)

Wavelength	660 nm
Output Level	–18 dBm

Tape player section

Recording system	4-track 2-channel stereo
Frequency response (DOLBY NR OFF)	40 – 13,000 Hz (±3 dB), using Sony TYPE I cassette 40 – 14,000 Hz (±3 dB), using Sony TYPE II cassette

Tuner section

FM stereo, FM/AM superheterodyne tuner

FM tuner section

Tuning range	87.5 – 108.0 MHz
Antenna	FM lead antenna
Antenna terminals	75 ohm unbalanced
Intermediate frequency	10.7 MHz

UKV tuner section
(3 band (FM-AM-UKV) models only)

Tuning range	65.0 – 74.0 MHz Stereo Plus

AM tuner section

Tuning range
2 Band type:

North American models:	530 – 1,710 kHz (with the interval set at 10 kHz) 531 – 1,710 kHz (with the interval set at 9 kHz)
European models:	531 – 1,602 kHz (with the interval set at 9 kHz)
Other models:	531 – 1,602 kHz (with the interval set at 9 kHz) 530 – 1,710 kHz (with the interval set at 10 kHz)

3 Band type:
Middle Eastern models:

MW:	531 – 1,602 kHz (with the interval set at 9 kHz)
SW:	5.95 – 17.90 MHz (with the interval set at 5 kHz)

Other models:

MW:	531 – 1,602 kHz (with the interval set at 9 kHz) 530 – 1,710 kHz (with the interval set at 10 kHz)
SW:	5.95 – 17.90 MHz (with the interval set at 5 kHz)
Antenna	AM loop antenna
Antenna terminals	External antenna terminal
Intermediate frequency	450 kHz

General

Power requirements

North American models:	120 V AC, 60 Hz
European models:	230 V AC, 50/60 Hz
Australian model:	230 – 240 V AC, 50/60 Hz
Mexican model:	120 V AC, 50/60 Hz
Thai model:	220 V AC, 50/60 Hz
Other models:	120 V, 220 V or 230 – 240 V AC, 50/60 Hz Adjustable with voltage selector

Power consumption

U.S.A model:	200 watts
Canadian model:	180 watts
European model:	210 watts
Other models:	240 watts
Dimensions (w/h/d)	Approx. 280 x 340 x 395 mm ($11^{1}/_{8}$ x $13^{1}/_{2}$ x $15^{5}/_{8}$ in.)

Mass

U.S.A. models:	Approx. 11.0 kg (24 lb 4 oz)
Canadian models:	Approx. 10.9 kg
European models:	Approx. 11.3 kg
Other models:	Approx. 12.2 kg
Supplied accessories:	AM loop antenna (1) Remote Commander (1) Batteries (2) FM lead antenna (1) Speaker cords (5) Front speaker pads (8) Center speaker pads (4)

Design and specifications are subject to change without notice.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Flexible Circuit Board Repairing

- Keep the temperature of soldering iron around 270˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

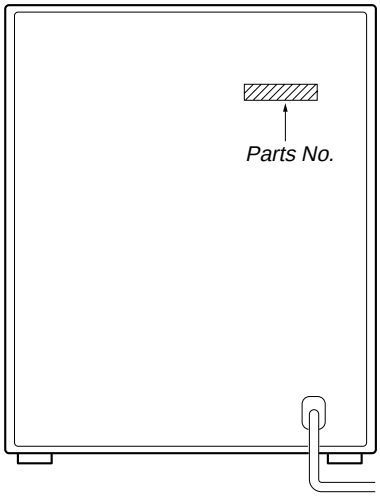
Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

CAUTION : INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.
ADVARSEL : USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSAETTELSE FOR STRÅLING.
VORSICHT : UNSICHTBARE LASERSTRAHLUNG. WENN ABDECKUNG GEÖFFNET UND SICHEREITSVERRIEGELUNG ÜBERBRÜCKT. NICHT DEM STRAHL AUSSETZEN.
VARO! : AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.
VARNING : OSYNLING LASERSTRÅLING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.
ADVERSEL : USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES OG SIKKERHEDSLÅS BRYTES. UNNGÅ EKSPONERING FOR STRÅLEN.
VIGYAZAT! : A BURKOLAT NYITÁSAKOR LÁTHATATLAN LÉZERSUGÁRVESZÉLY! KERÜLJE A BESUGÁRZÁST!

This caution label is located inside the unit.

MODEL IDENTIFICATION
— BACK PANEL —



PARTS No.	MODEL	PRODUCT COUNTRY
4-214-455-0☐	GRX90AV: E2, AR	INDONESIA
4-214-455-1☐	GRX90AV: EA	INDONESIA
4-214-455-2☐	GRX90AV: SP	INDONESIA
4-214-455-5☐	GRX90AV: MX	INDONESIA
4-214-455-6☐	GRX90AV: AUS	INDONESIA
4-214-455-7☐	RXD10AV: AEP, G, UK, CIS	INDONESIA
4-214-455-9☐	RXD10AV: US	INDONESIA
4-215-171-0☐	RXD10AV: CND	INDONESIA
4-215-171-1☐	GRX90AV: E3	INDONESIA
4-215-171-2☐	GRX90AV: TH	THAI
4-215-171-3☐	RXD10AV: AEP	THAI

- Abbreviation
  CND : Canadian model
  G : German model
  EA : Saudi Arabia model
  MX : Mexican model
  E2 : Without SW tuner E model
  E3 : With SW tuner E model
  SP : Singapore model
  AUS : Australian model
  AR : Argentine model
  TH : Thai model

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

LASER DIODE AND FOCUS SEARCH OPERATION CHECK

Carry out the “S curve check” in “CD section adjustment” and check that the S curve waveform is output four times.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE

The AC leakage from any exposed metal part to earth Ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

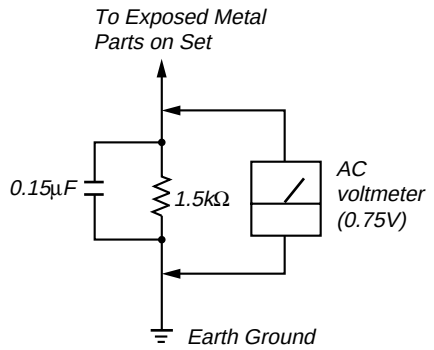


Fig. A. Using an AC voltmeter to check AC leakage.

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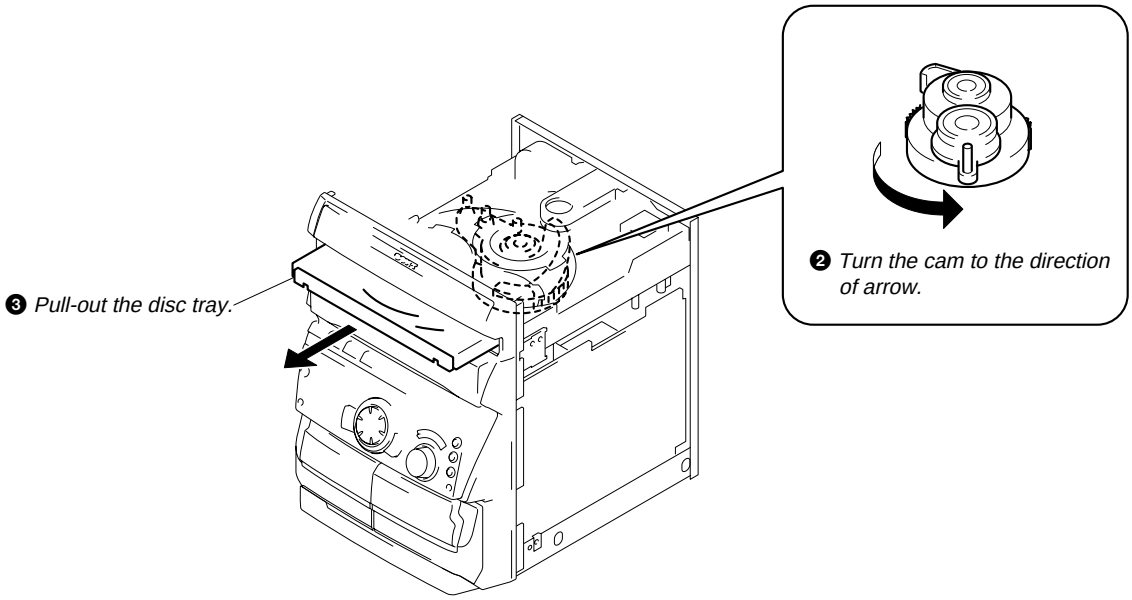
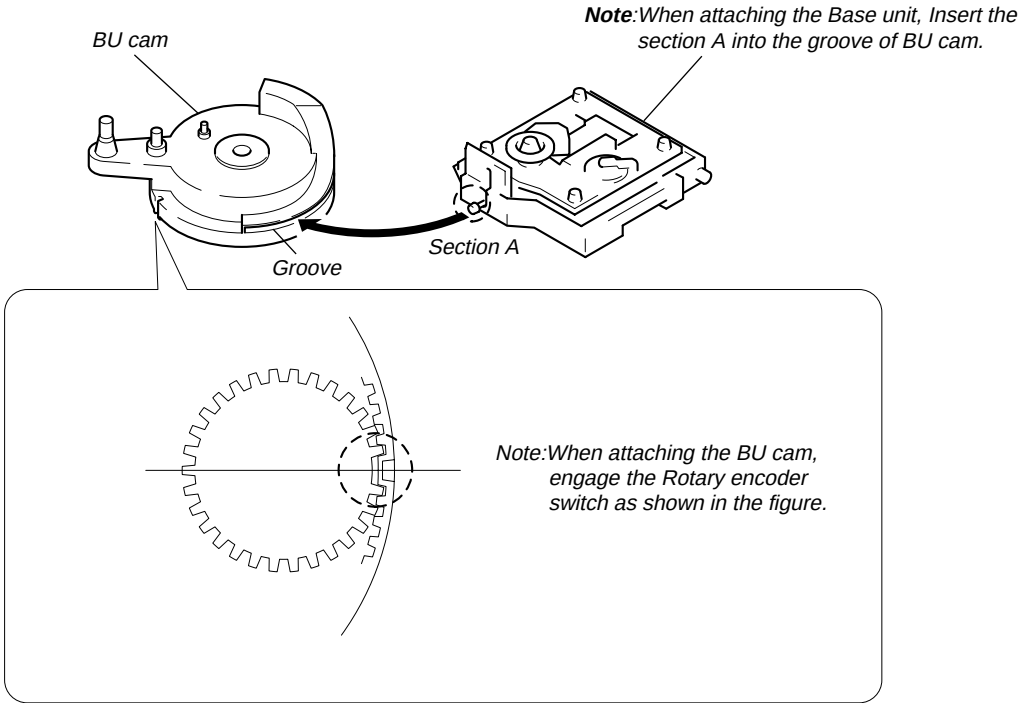
SECTION 1
SERVICING NOTE

HOW TO OPEN THE DISC TRAY WHEN POWER SWITCH TURNS OFF

❶ *Remove the Case.*



Note for Installation (ROTARY ENCODER)

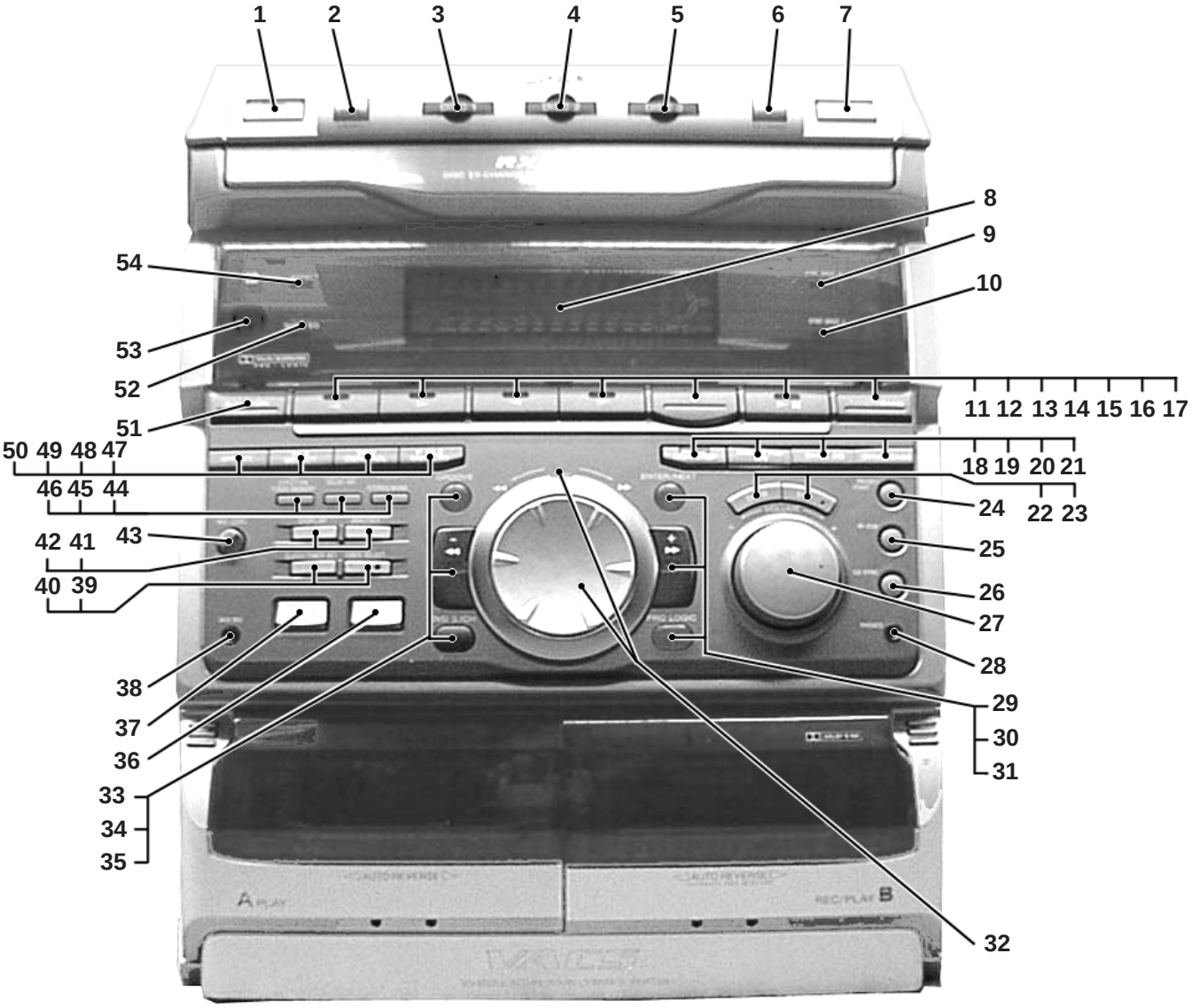

BU cam
Note:When attaching the Base unit, Insert the section A into the groove of BU cam.
Section A
Groove
Note:When attaching the BU cam, engage the Rotary encoder switch as shown in the figure.

CD-TEXT

This unit is provided with a simple CD-TEXT display function.
The CD-TEXT contents of 20 tracks are displayed on the fluorescent display tube.
Since the function is simple, some special characters may not be displayed, or may be displayed as other characters.

SECTION 2
GENERAL

Front Panel



LOCATION OF PARTS AND CONTROLS

1 I/⏻ button
2 DEMO (STANDBY) button (GRX90AV)
DEMO (STANDBY) POWER SAVE button (RXD10AV)
3 DISC 1 button and indicator
4 DISC 2 button and indicator
5 DISC 3 button and indicator
6 DISC SKIP/EX–CHANGE button
7 ⏏ (Eject) button
8 Display window
9 SYNC BASS H button and indicator
10 SYNC BASS L button and indicator
11 ◄ (A deck) button and indicator
12 ► (A deck) button and indicator
13 ◄ (B deck) button and indicator
14 ► (B deck) button and indicator
15 ■ button
16 ►II (CD) button and indicator
17 TUNER/BAND button
18 NON-STOP button and indicator
19 KARAOKE PON/MPX button
20 SYNC EQ button
21 SYNC BASS button
22 DBFB button
23 DSP button and indicator
24 REC PAUSE/START button and indicator
25 HI-DUB button
26 CD SYNC button
27 VOLUME knob
28 PHONES jack
29 ENTER/NEXT button and indicator
30 ►► + button and indicator
31 PRO LOGIC button and indicator
32 JOG/◄◄ ►► dial and indicator
33 GROOVE button and indicator
34 –◄◄ button and indicator
35 DVD 5.1 CH button
36 FLASH button
37 LOOP button
38 MIX MIC jack
39 TIMER SELECT button and indicator
40 CLOCK TIMER SET button
41 SPECTRUM ANALYZER button
42 DISPLAY button
43 MIC LEVEL knob
44 STEREO/MONO button
45 PLAY MODE/DOLBY NR button (EXCEPT AEP, UK, German, CIS model)
PLAY MODE/DOLBY NR/PTY button (AEP, UK, German, CIS model)
46 EDIT DIRECTION/TUNER MEMORY button
47 P FILE MEMORY button
48 GEQ CONTROL button
49 FILE SELECT button
50 EFFECT button
51 FUNCTION button
52 SYNC EQ button
53 Remote sensor
54 EFFECT indicator

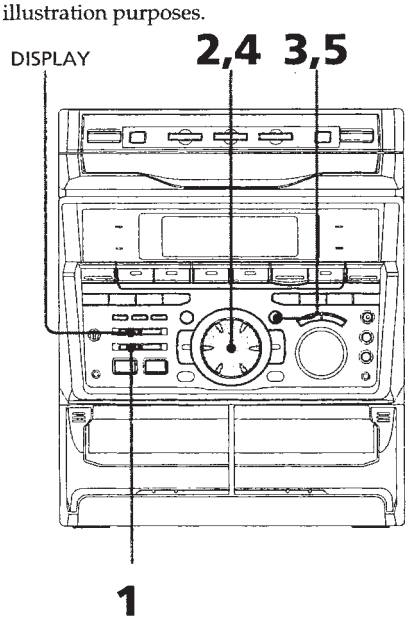
This section is extracted from instruction manual.

Step 3: Setting the time

You must set the time before using the timer functions.

The clock is on a 24-hour system for the European model, and a 12-hour system for other models.

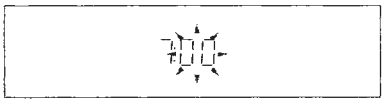
The 24-hour system model is used for illustration purposes.



1 Press CLOCK/TIMER SET.
The hour indication flashes.

2 Turn the jog dial to set the hour.

3 Press ENTER/NEXT.
The minute indication flashes.



4 Turn the jog dial to set the minute.

5 Press ENTER/NEXT.
The clock starts working.

Tip

If you've made a mistake, start over from step 1.

To change the time

The previous explanation shows you how to set the time while the power is off. To change the time while the power is on, do the following:

1 Press CLOCK/TIMER SET.
2 Turn the jog dial to select SET CLOCK.
3 Press ENTER/NEXT.
4 Perform steps 2 through 5 above.

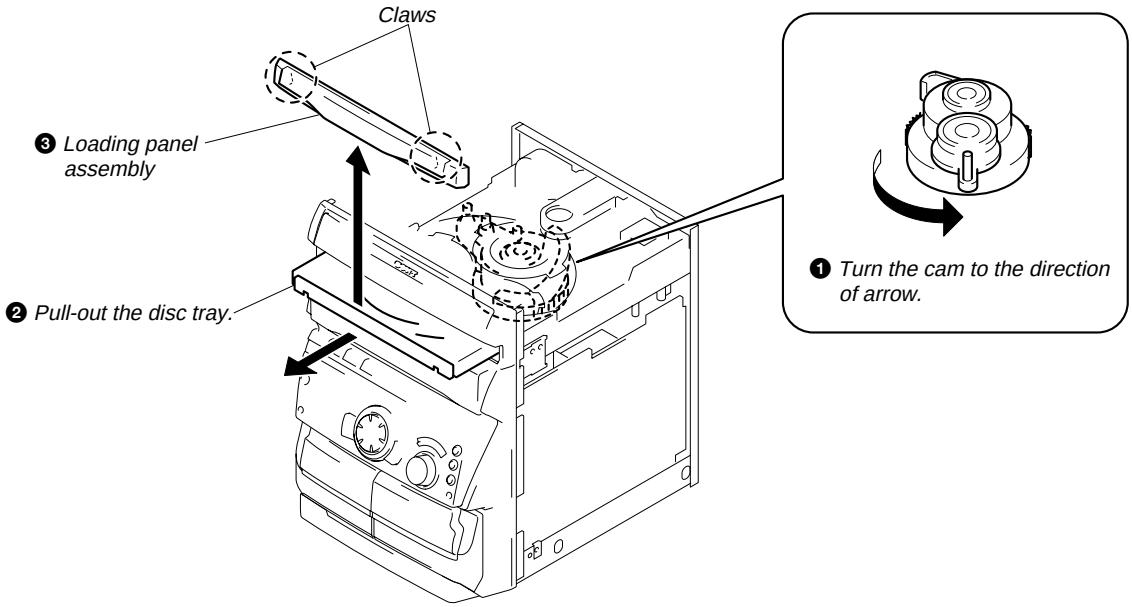
Note

The clock settings are cancelled when you disconnect the power cord or if a power failure occurs.

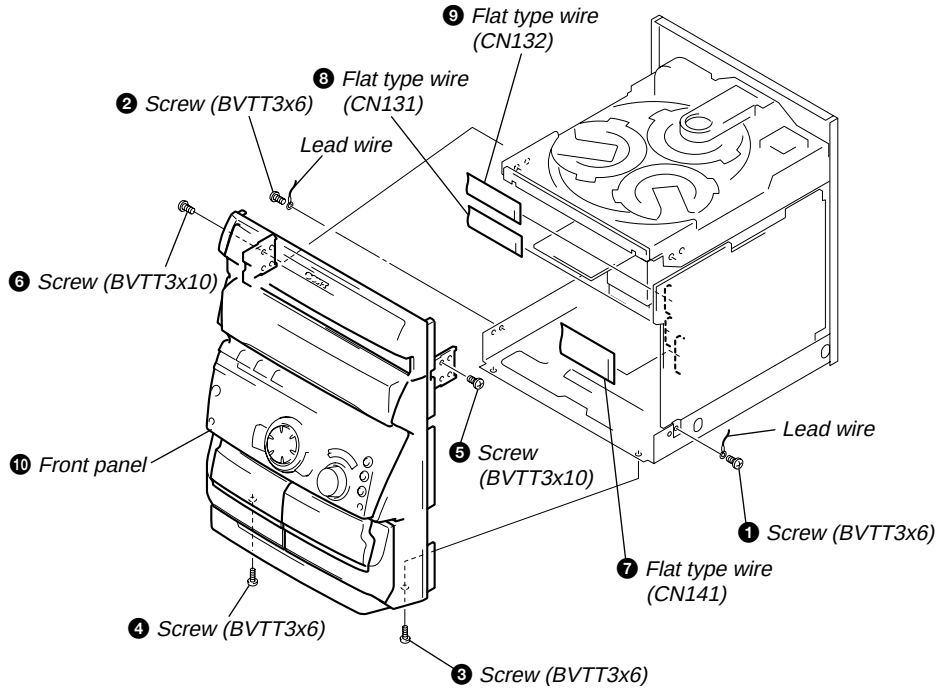
SECTION 3
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

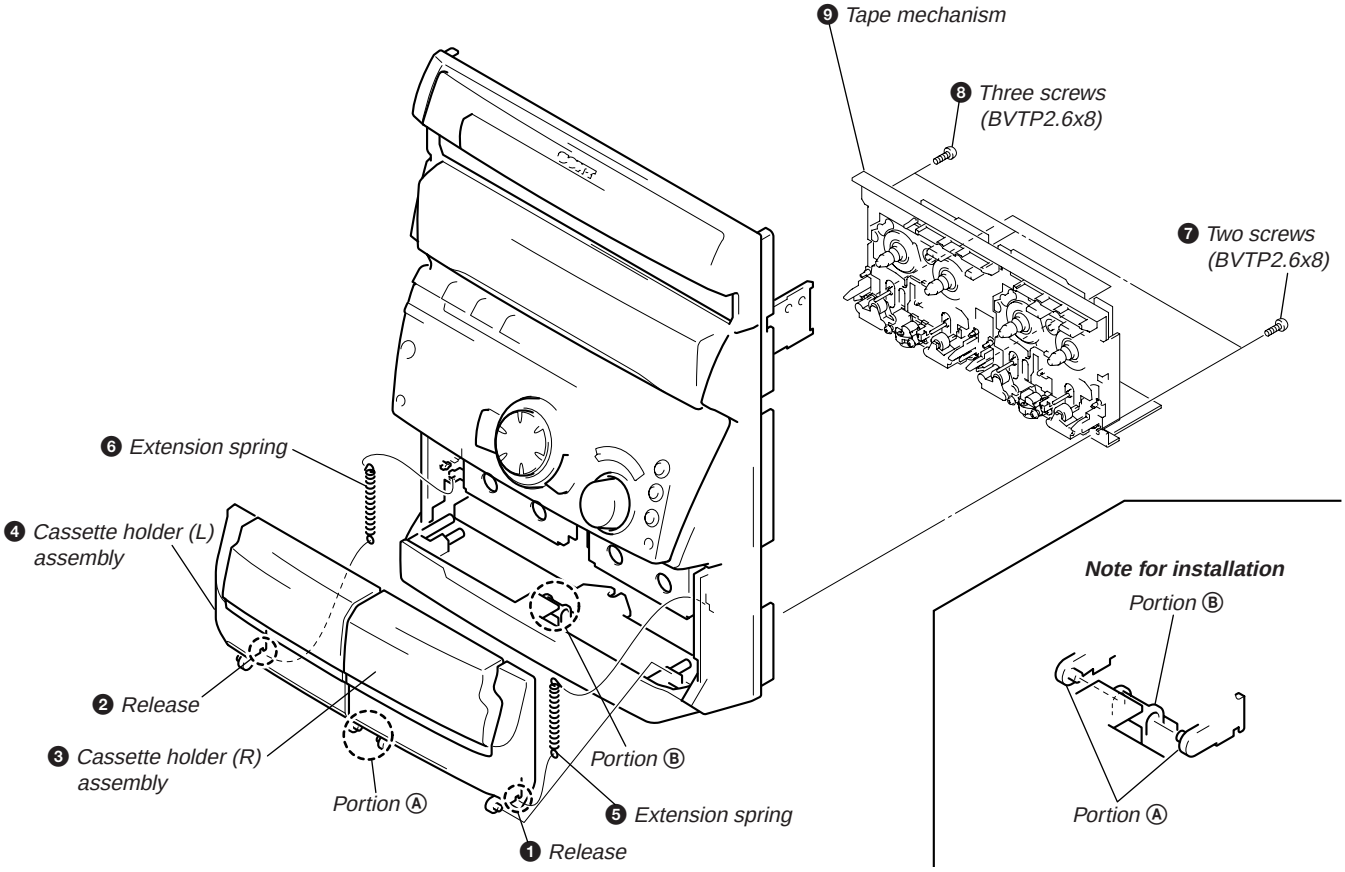
3-1. LOADING PANEL



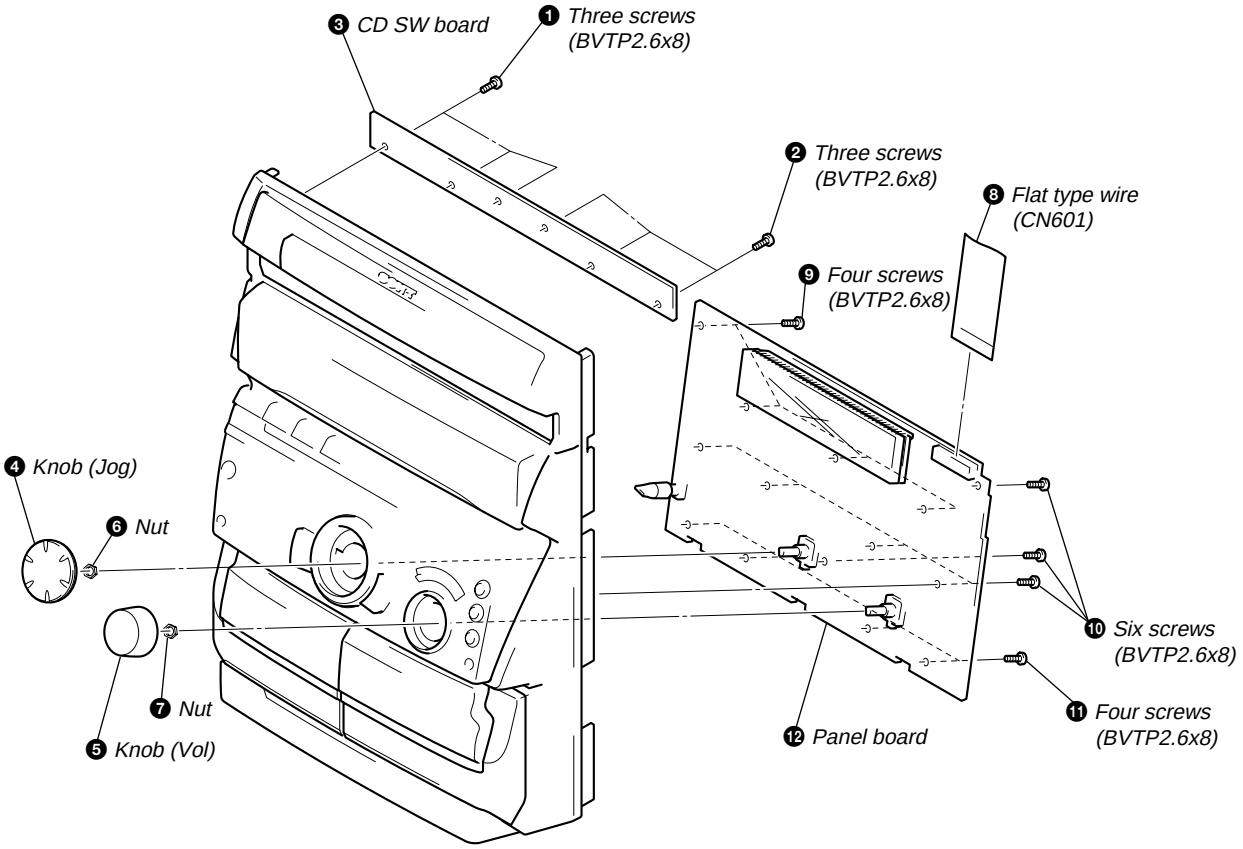
3-2. FRONT PANEL



3-3. CASSETTE LID AND TAPE MECHANISM

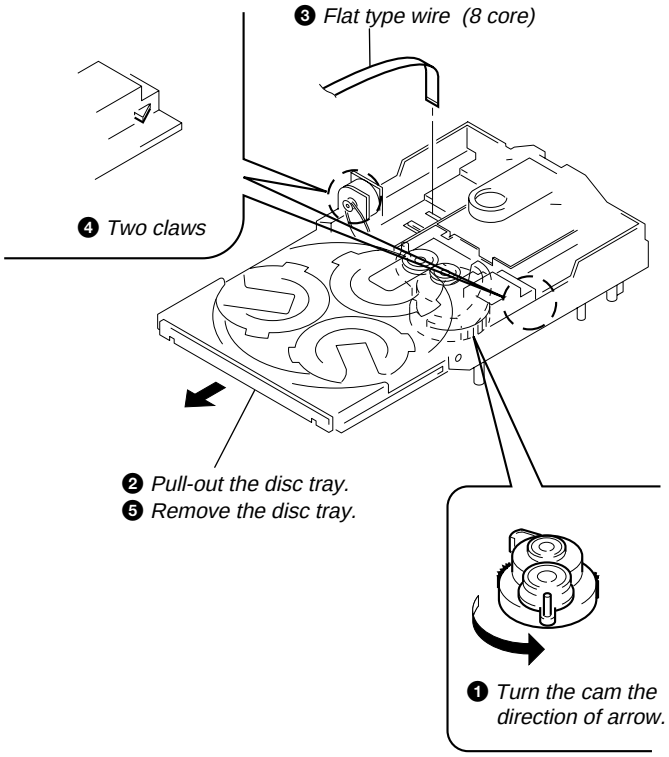


3-4. CD SW BOARD AND PANEL BOARD

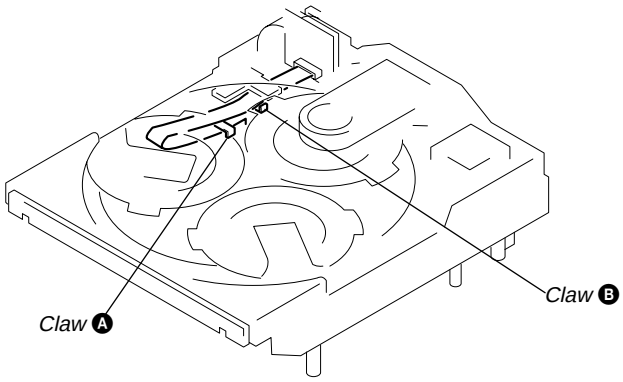


3-5. DISC TRAY

(Perform after removing the front panel.)



Note:*When installing the Disc tray, pull around the flat type wire to pass through the claw* Ⓐ *and claw* Ⓑ*, as shown in the figure.*



SECTION 4
SERVICE MODE

MC Cold Reset

• The cold reset clears all data including preset data stored in the RAM to initial conditions. Execute this mode when returning the set to the customer.

Procedure:

1. Press three buttons [■] , [ENTER/NEXT] , and [I/⏻] simultaneously.
2. "COLD RESET" is displayed on the fluorescent display tube and reset is executed.

CD Delivery Mode

• This mode moves the optical pick-up to the position durable to vibration. Use this mode when returning the set to the customer after repair.

Procedure:

1. Press [I/⏻] button to turn the set ON.
2. Press [LOOP] button and [I/⏻] button simultaneously.
3. A message "LOCK" is displayed on the fluorescent indicator tube, and the CD delivery mode is set.

MC Hot Reset

• This mode resets the set with the preset data kept stored in the memory. The hot reset mode functions same as if the power cord is plugged in and out.

Procedure:

1. Press three buttons [■] , [ENTER/NEXT] , and [DISC 1] simultaneously.
2. The fluorescent indicator tube becomes blank instantaneously, and the set is reset.

Sled Servo Mode

• This mode can run the CD sled motor freely. Use this mode, for instance, when cleaning the pick-up.

Procedure:

1. Press [I/⏻] button to turn the set ON.
2. Press three buttons [■] , [ENTER/NEXT] , and [⏏] simultaneously.
3. The Sled Servo mode is selected, if "CD" is blanking on the fluorescent indicator tube.
4. With the CD in stop status, When the [◀◀ AMS ▶▶] knob is rotated in the clockwise direction, the optical pick-up moves outside. When rotated counterclockwise, it moves inside.
5. To exit from this mode, perform as follows:
   1) Move the optical pick-up to the most inside track.
   2) Execute MC cold reset. (Press the three buttons [■] , [ENTER/NEXT] , and [I/⏻] button simultaneously.)

Note:

• Always move the pick-up to most inside track when exiting from this mode. Otherwise, a disc will not be unloaded.
• Do not run the sled motor excessively, otherwise the gear can be chipped.

Change-over of AM Tuner Step between 9kHz and 10kHz

• A step of AM channels can be changed over between 9kHz and 10kHz.

Procedure:

1. Press [I/⏻] button to turn the set ON.
2. Select the function "TUNER", and press [TUNER/BAND] button to select the BAND "AM".
3. Press [I/⏻] button to turn the set OFF.
4. Press [ENTER/NEXT] and [I/⏻] buttons simultaneously, and the display of fluorescent indicator tube changes to "AM 9k STEP" or "AM 10k STEP", and thus the channel step is changed over.

LED and Fluorescent Indicator Tube All Lit, Key Check Mode

Procedure:

1. Press three buttons [■] , [ENTER/NEXT] , and [DISC 2] simultaneously.
2. LEDs and fluorescent indicator tube are all turned on.
   Press [DISC 2] button, and the key check mode is activated.
3. In the key check mode, the fluorescent indicator tube displays "K 0 V0 J0". Each time a button is pressed, "K"value increases. However, once a button is pressed, it is no longer taken into account.
   "J" Value increases like 1, 2, 3 ... if rotating [◀◀ AMS ▶▶] knob in "+" direction, or it decreases like 0, 9, 8 ... if rotating in "-" direction.
   "V" Value increases like 1, 2, 3 ... if rotating [VOLUME] knob in "+" direction, or it decreases like 0, 9, 8 ... if rotating in "-" direction.
4. To exit from this mode, press three buttons in the same manner as step 1, or disconnect the power cord.

AMS Test Mode

• This mode is used for checking the AMS operations of the tape deck.

JIG
7-819-039-12 Alignment tape, AMS-110A

Procedure:

1. Press the I/⏻ button to turn the unit ON.
2. Set the tape (AMS-110A).
3. Press the three buttons ■ , ENTER/NEXT , and DISC 3 button simultaneously.
4. "TEST MODE" is displayed on the fluorescent display tube.
5. Press the FUNCTION button and switch the function to the deck with the tape (AMS-110A).
6. Press the CD SYNC button. "AMS CHECK" is displayed on the fluorescent display tube and the tape is rewound.
7. AMS starts in the normal direction. If the AMS count is 2 at shut down, proceed to step 8.
   "NG" is displayed at other times, and the deck stops.
8. AMS starts in the opposite direction. If the AMS count is 2 at shut down again, "OK" is displayed.
   "NG" is displayed at other times.

Note: The ■ button of CD section will become effective and the aging of CD section will stop sometime, if the buttons described in step 3 are not pressed simultaneously. In that case, press ▶II button and operate the CD section.

Aging Mode

During the aging mode, both the CD player and tape deck are executed together.

• If an error occurs:

Aging stops, and the error state is displayed on the fluorescent display tube.

• If no error occurs:

Aging is repeated.

Procedure:

1. Press the I/⏻ button to turn the unit ON.
2. Load 10 minute tapes with unbent rec-proof tabs in decks A and B.
3. Set CD on the DISC 1 table.
4. Set the CD mode REPEAT to OFF and PLAY MODE to ALL DISCS.
   (Press the PLAY MODE/DOLBY NR and REPEAT/STEREO/MONO buttons to set these modes.)
5. Press the FUNCTION button to switch the function to "CD".
6. Press the three buttons ■ , ENTER/NEXT , and DISC SKIP/EX-CHANGE button simultaneously.
7. Aging starts.
8. To end aging, press the I/⏻ button to turn the unit OFF.

Aging Sequence:

Aging is performed in the following sequence.

• Tape Deck

1. The tape in deck A is rewound. "TAPE A AG-1" is displayed.
2. The FWD side of deck A is played for two minutes.
   "TAPE A AG-2" is displayed.
3. The tape in deck A is fast forwarded. "TAPE A AG-3" is displayed. Fast forward is carried out for 20 seconds or to the tape end.
4. The RVS side of deck A is played for two minutes.
   "TAPE A AG-4" is displayed.
5. The tape in deck A is rewound. "TAPE A AG-5" is displayed.
6. The FWD side of deck B is played for two minutes.
   "TAPE B AG-2" is displayed.
7. The tape in deck B is fast forwarded. "TAPE B AG-3" is displayed. Fast forward is carried out for 20 seconds or to the tape end.
8. The RVS side of deck B is played for two minutes.
   "TAPE B AG-4" is displayed.
9. The tape in deck A is rewound. "TAPE A AG-5" is displayed.
10. Repeated from step 2.

• CD

1. The tray rotates.
2. DISC 1 is chucked.
3. The TOC is read.
4. The first track is played for 2 seconds.
5. The last track is played for 2 seconds.
6. Repeated from step 1.

• Display when ended abnormally
When the tape deck is abnormal:

The state when ended abnormally is displayed.
The contents of display are the same as that during aging.

When the CD player is abnormal:

A message indicating that errors such as “CD MEC ERR” have occurred.
Check the error contents in the following error history display mode.

Error History Display Mode

Mode which enables the history of error occurring in the CD player to be checked.
Execute this mode after ending the aging mode.

Procedure:
1. Press the I/⏻ button to turn the unit ON.
2. Press the three buttons ■ , ENTER/NEXT , and CD SYNC simultaneously.
3. A message such as “EMC@@EDC**” is displayed.
   @@ : Number of mechanical errors (Up to three past errors)
   ** : Number of errors (NO DISC ERROR) which occurs after chucking (Up to three past errors)
4. When checking the history of mechanical errors, press the PLAY MODE/DOLBY NR buttons. When checking errors after chucking, press the REPEAT/STERO/MONO buttons to switch the display.
5. Press the I/⏻ button to end and turn the unit OFF.
6. To erase the error history, perform COLD reset.
   (Press the three buttons ■ , ENTER/NEXT , and DISC 1 simultaneously.

• Viewing the mechanical error history display
(Switch the history by pressing the PLAY MODE/DOLBY NR button.)

Display
E@@M**#*$*

@@ : Error number. 00 is the newest.

* : Invalid

\# : Loading
- D : Stop that is due to a problem of other than mechanism during CLOSE mode.
- E : Stop that is due to a problem of other than mechanism during OPEN mode.
- C : Stop that is due to a problem of other than mechanism during CHUCK UP mode.
- F : Stop that is due to a problem of other than mechanism during EX OPEN mode.

$: Emerging
- 1 : Stop during CLOSE mode.
- 2 : Stop during CHUCK DOWN mode.
- 3 : Time limit of EX OPEN mode.
- 5 : Time limit of EX CLOSE mode.

• Viewing the NO DISC ERROR history display
(Switch the history by pressing the REPEAT/STERO/MONO buttons.)

Display
E@@D##$$%*

@@ : Error number. 00 is the newest

: Error contents
- 01 : Focus error
- 02 : GFS error
- 03 : Setup error

$$: Retries
- 00 : NO DISC is determined without attempting chucking retry
- 02 : NO DISC is determined after chucking retry.

% : State when determined as NO DISC
- 1 : When stopped
- 2 : At setup
- 3 : At TOC READ
- 4 : When accessing
- 5 : When playing
- 6 : When pausing
- 7 : When manual searching (during play)
- 8 : When manual searching (during pausing)

* : Invalid

SECTION 5
MECHANICAL ADJUSTMENTS

Precaution

1. Clean the following parts with a denatured alcohol-moistened swab:
   - record/playback heads
   - erase head
   - capstan
   - pinch rollers
   - rubber belts
   - idlers
2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Torque Measurement

Mode	Torque meter	Meter reading
FWD	CQ-102C	31 to 71 g • cm (0.43 – 0.98 oz • inch)
FWD back tension	CQ-102C	2 to 6 g • cm (0.02 – 0.08 oz • inch)
REV	CQ-102RC	31 to 71 g • cm (0.43 – 0.98 oz • inch)
REV back tension	CQ-102RC	2 to 6 g • cm (0.02 – 0.08 oz • inch)
FF/REW	CQ-201B	71 to 143 g • cm (0.98 – 1.99 oz • inch)
FWD tension	CQ-403A	100 g or more (3.53 oz or more)
REV tension	CQ-403R	100 g or more (3.53 oz or more)

SECTION 6
ELECTRICAL ADJUSTMENTS

DECK SECTION **0 dB=0.775V**

1. Demagnetize the record/playback head with a head damagnetizer.
2. Do not use a magnetized screwdriver for the adjustments.
3. After the adjustments, apply suitable locking compound to the parts adjusted.
4. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
5. The adjustments should be performed in the order given in this service manual. (As a general rule, playback circuit adjustment should be completed before performing recording circuit adjustment.)
6. The adjustments should be performed for both L-CH and R-CH.
7. Switches and controls should be set as follows unless otherwise specified.

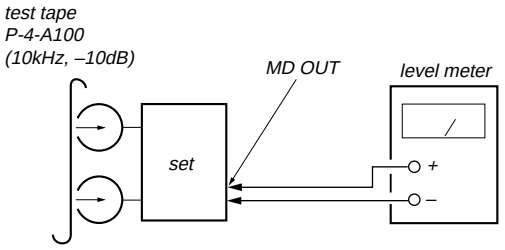
Tape	Signal	Used for
P-4-A100	10 kHz, –10 dB	Azimuth Adjustment
WS-48B	3 kHz, 0 dB	Tape Speed Adjustment
P-4-L300	315 Hz, 0 dB	Level Adjustment

Record/Playback Head Azimuth Adjustment (Deck A, Deck B)

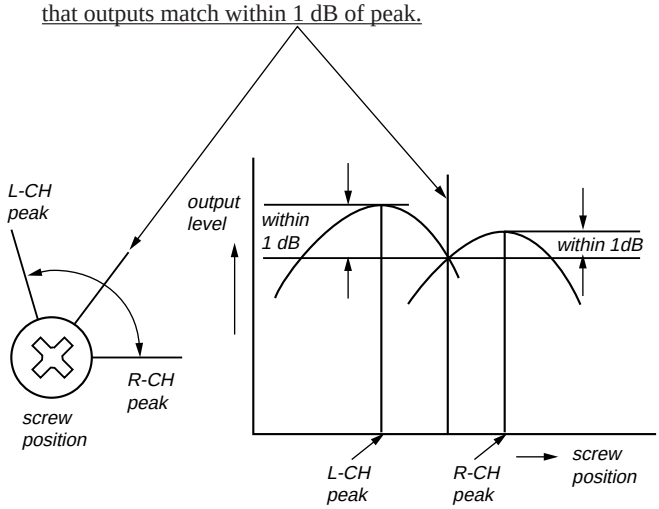
Note: Perform this adjustments for both decks.

Procedure:

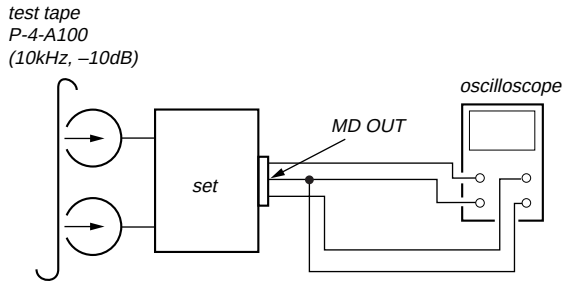
1. Mode : Playback

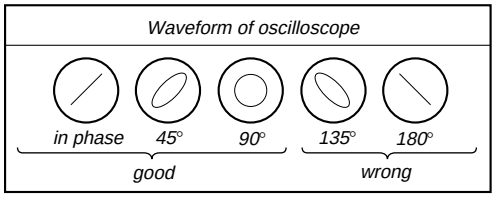


2. Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 1 dB of peak.



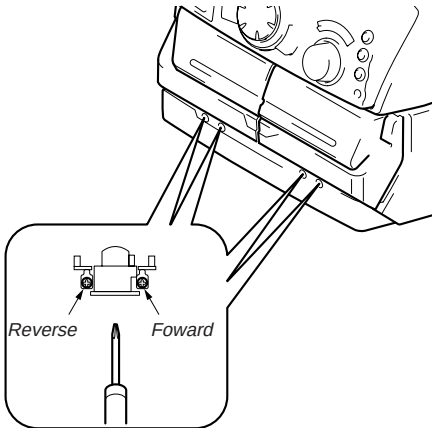
3. Mode: Playback





4. After the adjustments, apply suitable locking compound to the parts adjusted.

Adjustment Location: Playback Head (Deck A)
Record/Playback/Erase Head (Deck B)



Tape Speed Adjustment (Deck A)

Note: Set the test mode using the following method and begin tape speed adjustment.
In the test mode, the speed will switch to double speed or normal speed each time the HI-DUB button is pressed.

Procedure:
With the power turned ON, press the ■ button, ENTER/NEXT button, and DISC 3 button simultaneously.
(The "CD TABLE INDICATOR" on the fluorescent display tube will blink while in the test mode.)
To exit the test mode, press the I/⏻ button.

1. Insert the WS-48B into deck B.
2. Press the ► button of deck B.
3. Press the HI-DUB button and play the tape at double speed.
4. Adjust RV1001 of the LEAF SW board so that the reading of the frequency counter becomes 6000 ± 180 Hz.
5. Press the HI-DUB button and play the tape at normal speed.
6. Adjust RV1002 of the LEAF SW board so that the reading of the frequency counter becomes 3000 ± 90 Hz.

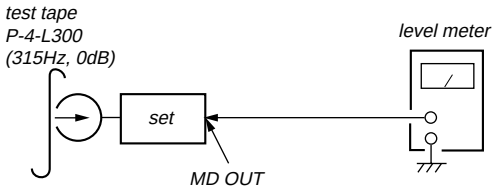
Adjustment Location: LEAF SW board

Sample Value of Wow and flutter

W.RMS (JIS) less than 0.3%
(test tape: WS-48B)

Playback Level Adjustment (Deck A, Deck B)

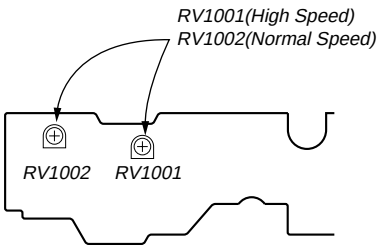
Procedure:
Mode: Playback



Deck A is RV311 (L-CH) and RV411 (R-CH), deck B is RV301 (L-CH) and RV401 (R-CH)
so that adjustment within the following adjustment level.

Adjustment level:
CN301 playback level: 301.5 to 338.3 mV (–8.2 to –7.2 dB)
level difference between the channels: within ± 0.5 dB
Adjustment Location: AUDIO board

Adjustment Location [LEAF SW BOARD]

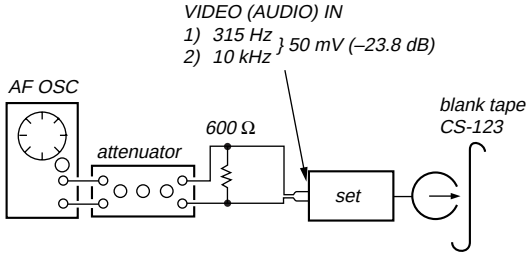


Record Bias Adjustment (Deck B)

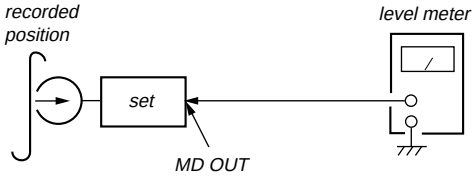
Procedure:

INTRODUCTION
When set to the test mode performed in **Tape Speed Adjustment**, when the tape is rewound after recording, the "REC memory mode" which rewinds only the recorded portion and playback is set.
This "REC memory mode" is convenient for performing this adjustment. During recording, the input signal FUNCTION will automatically switch to VIDEO.
(After recording, press the [– ◀◀] button without stopping will return to the position where recording was started.)

1. Press [FUNCTION] button to select VIDEO. (This step is not necessary if the above test mode has already been set.)
2. Insert a tape into deck B, press the [● REC] button, and then press the [►] button to start recording.
3. Mode: Record



4. Mode: Playback



5. Confirm playback the signal recorded in step 2 become adjustment level as follows.
   If these levels do not adjustment level, adjust the RV341 (L-CH) and RV441 (R-CH) on the AUDIO board to repeat steps 3 and 4.

Adjustment level: The playback output of 10 kHz level difference against 315 Hz reference should be ± 1.0 dB.

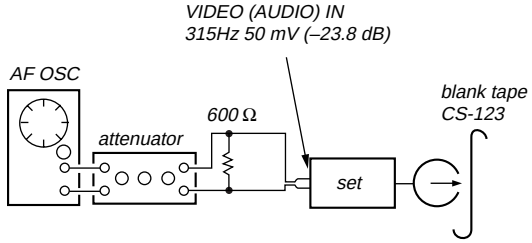
Adjustment Location: AUDIO board

Record Level Adjustment (Deck B)

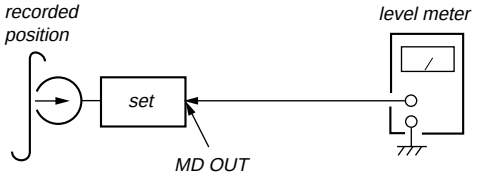
Procedure:

INTRODUCTION
When set to the test mode performed in **Tape Speed Adjustment**, when the tape is rewound after recording, the "REC memory mode" which rewinds only the recorded portion and playback is set.
This "REC memory mode" is convenient for performing this adjustment. During recording, the input signal FUNCTION will automatically switch to VIDEO.
(After recording, press the [– ◀◀] button without stopping will return to the position where recording was started.)

1. Press [FUNCTION] button to select VIDEO. (This step is not necessary if the above test mode has already been set.)
2. Insert a tape into deck B, press the [● REC] button, and then press the [►] button to start recording.
3. Mode: Record



4. Mode: Playback

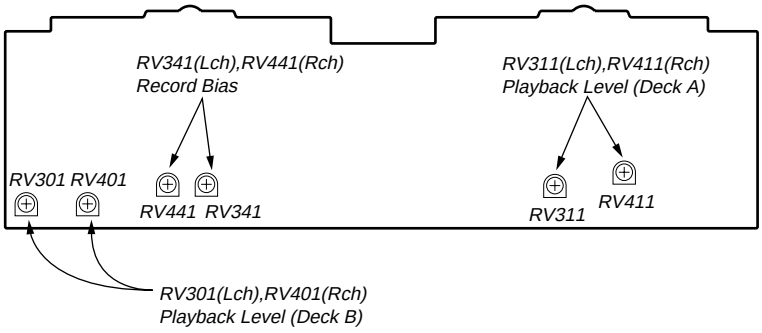


5. Confirm playback the signal recorded in step 2 become adjustment level as follows.
   If these levels do not adjustment level, adjust the RV301 (L-CH) and RV351 (R-CH) on the MAIN board to repeat steps 3 and 4.

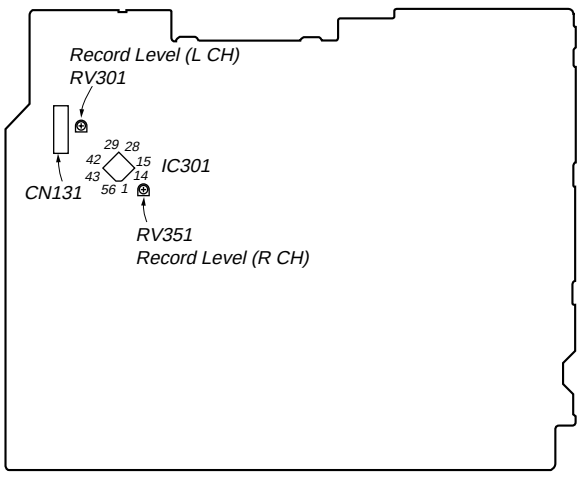
Adjustment level:
CN403 playback level: 47.2 to 53.0 mV (–24.3 to –23.3 dB)

Adjustment Location: MAIN board

Adjustment Location:
[AUDIO BOARD] (Conductor Side)



[MAIN BOARD] (Conductor Side)

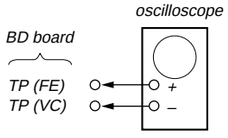


CD SECTION

Note:

1. CD Block is basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use an oscilloscope with more than 10MΩ impedance.
4. Clean the object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

S Curve Check



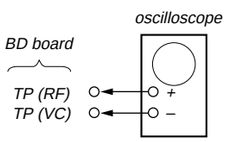
Procedure :

1. Connect the oscilloscope to test points TP (FE) and TP (VC).
2. Connect TP (FEI) and GND, and TP (AGCCON) and GND of the BD board with lead wires.
3. Press the I/⏻ button to turn the set ON.
4. With the disc (YEDS-18) loaded, press the ▶II button and perform focus search. (Focus search will be performed in the same way even while the disc table is pushed in and out.)
5. Check the symmetry and peak to peak level of the oscilloscope waveform (S curve) at this time.

6. After check, remove the lead wire connected in step 2.

Note: • Try to measure several times to make sure than the ratio of A : B or B : A is more than 10 : 7.
• Take sweep time as long as possible and light up the brightness to obtain best waveform.

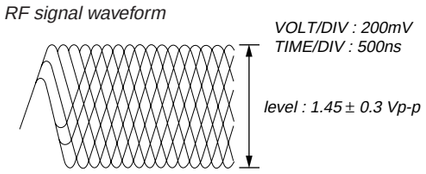
RF Level Check



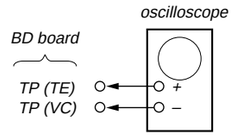
Procedure :

1. Connect oscilloscope to test point TP (RF) and TP (VC) on BD board.
2. Connect TP (AGCCON) and GND of the BD board with lead wires.
3. Press the I/⏻ button to turn the set ON.
4. Put disc (YEDS-18) in and playback 5track.
5. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.
6. After check, remove the lead wire connected in step 2.

Note: Clear RF signal waveform means that the shape "◊" can be clearly distinguished at the center of the waveform.



E-F Balance (1 Track Jump) check



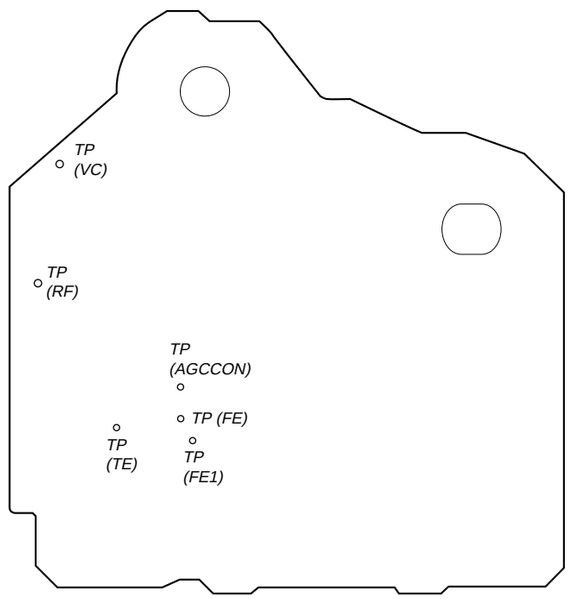
Procedure:

1. Connect oscilloscope to test point TP (TE) on BD board.
2. Press the I/⏻ button to turn the unit ON.
3. Put disc (YEDS-18) in to play the number five track.
4. Press the ▶II button.
5. Check the level B of the oscilloscope's waveform and the A (DC voltage) of the center of the Traverse waveform. Confirm the following:

   • A/B x 100 = less then ± 22 (%)
   • B = 1.3 ± 0.6 Vp-p

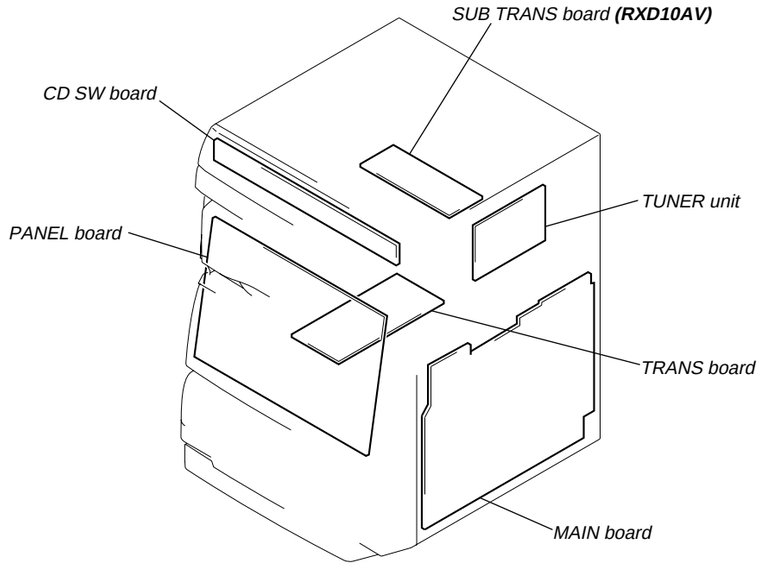
Adjustment Location :

[BD BOARD] — SIDE A —

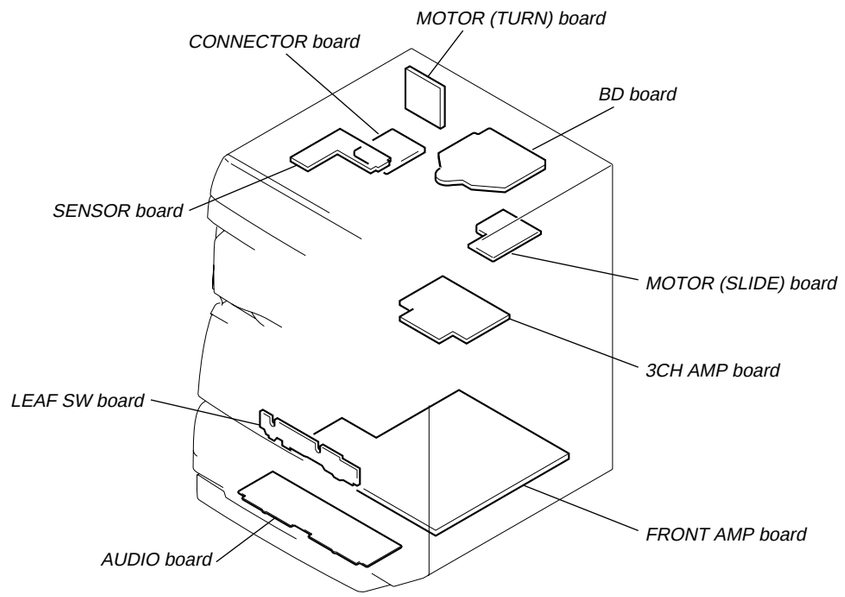


SECTION 7
DIAGRAMS

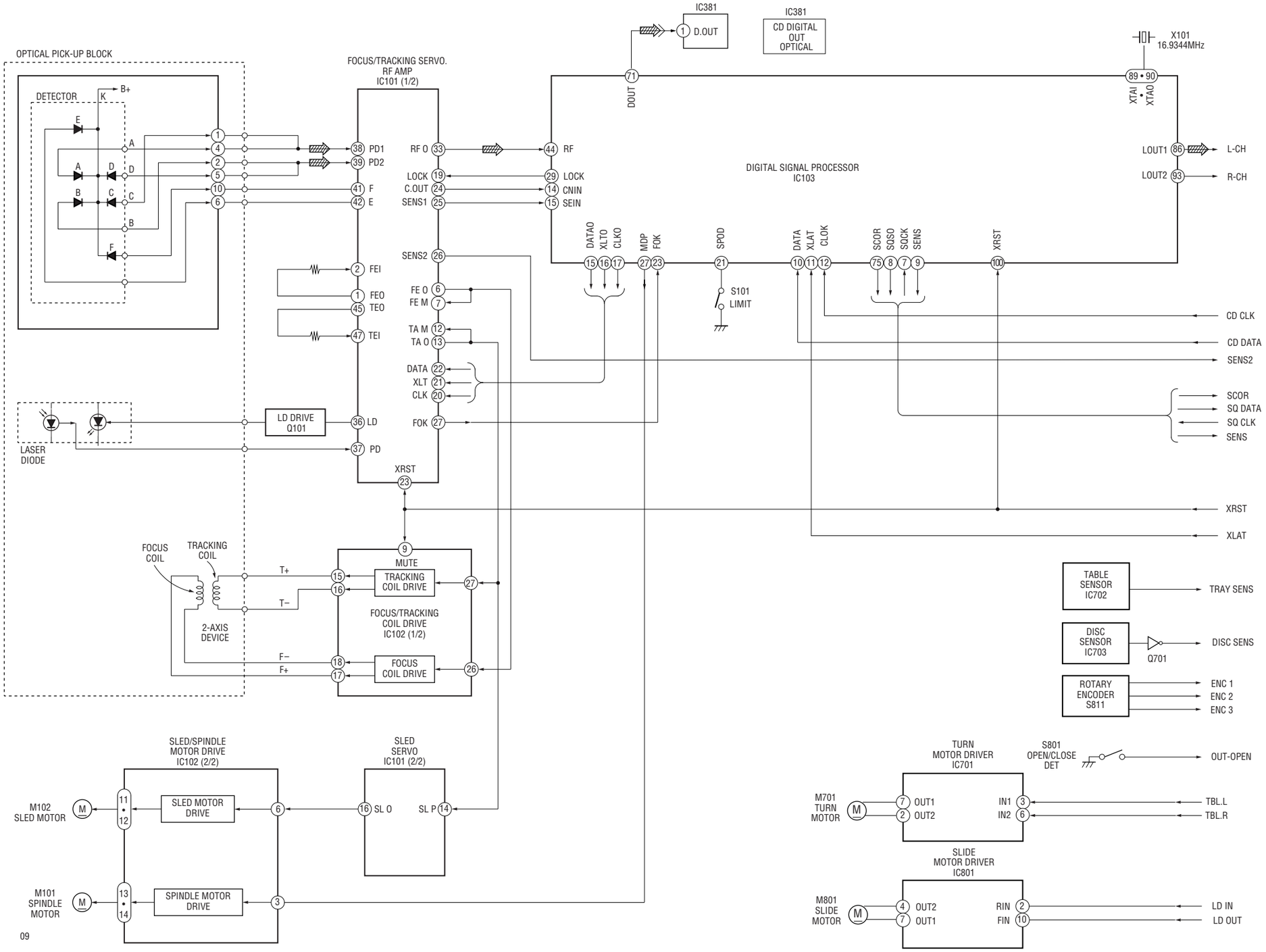
7-1. CIRCUIT BOARDS LOCATION



TUNER unit is supplied as the assembled block.



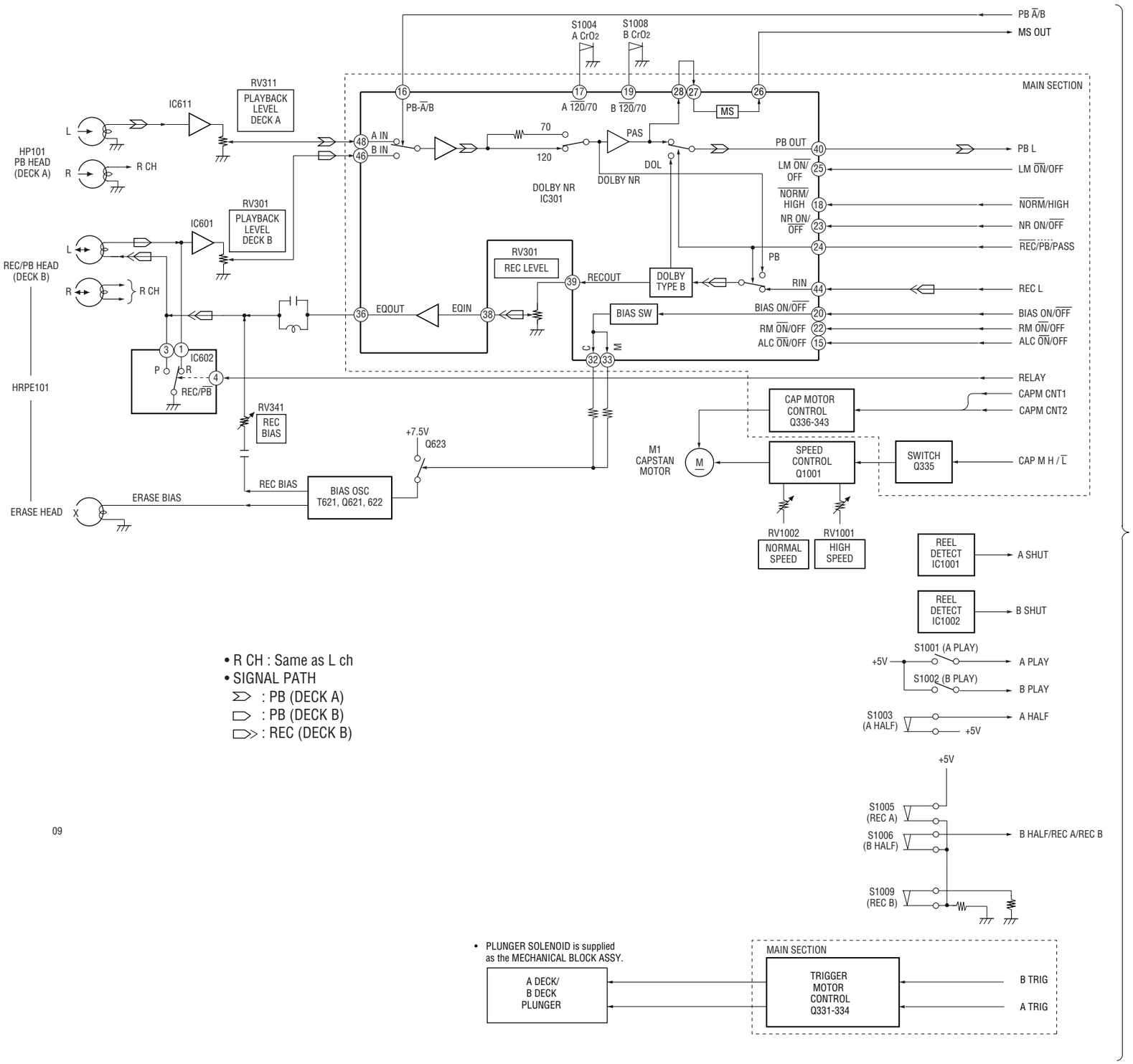
7-2. BLOCK DIAGRAMS
– CD SECTION –



C
MAIN SECTION
(Page 23)

- R CH: Same as L ch
- SIGNAL PATH
  : CD
  : Digital out

– DECK SECTION –

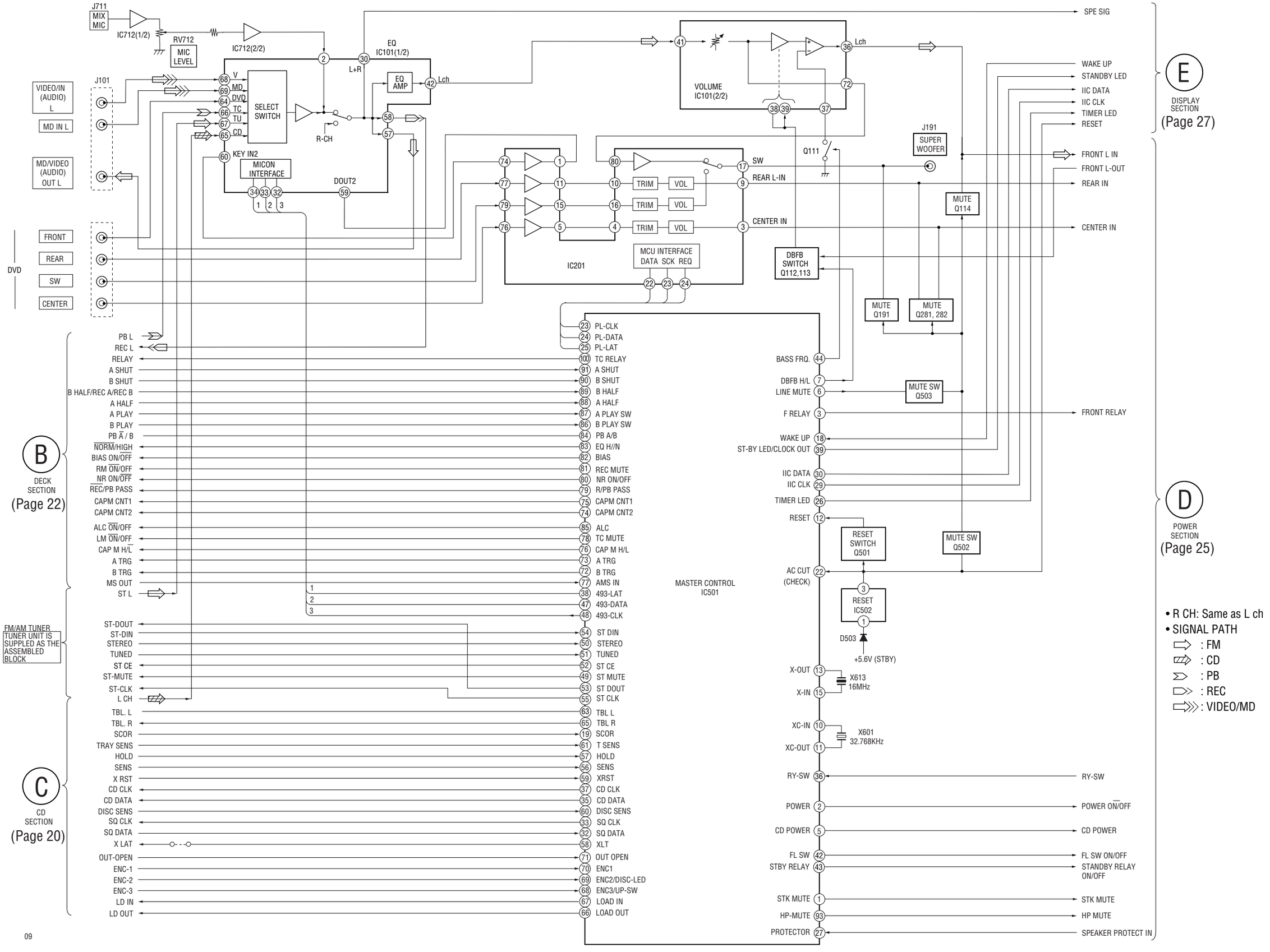


B
MAIN SECTION
(Page 23)

• R CH : Same as L ch
• SIGNAL PATH
  ⩾ : PB (DECK A)
  ▷ : PB (DECK B)
  ▷⩾ : REC (DECK B)

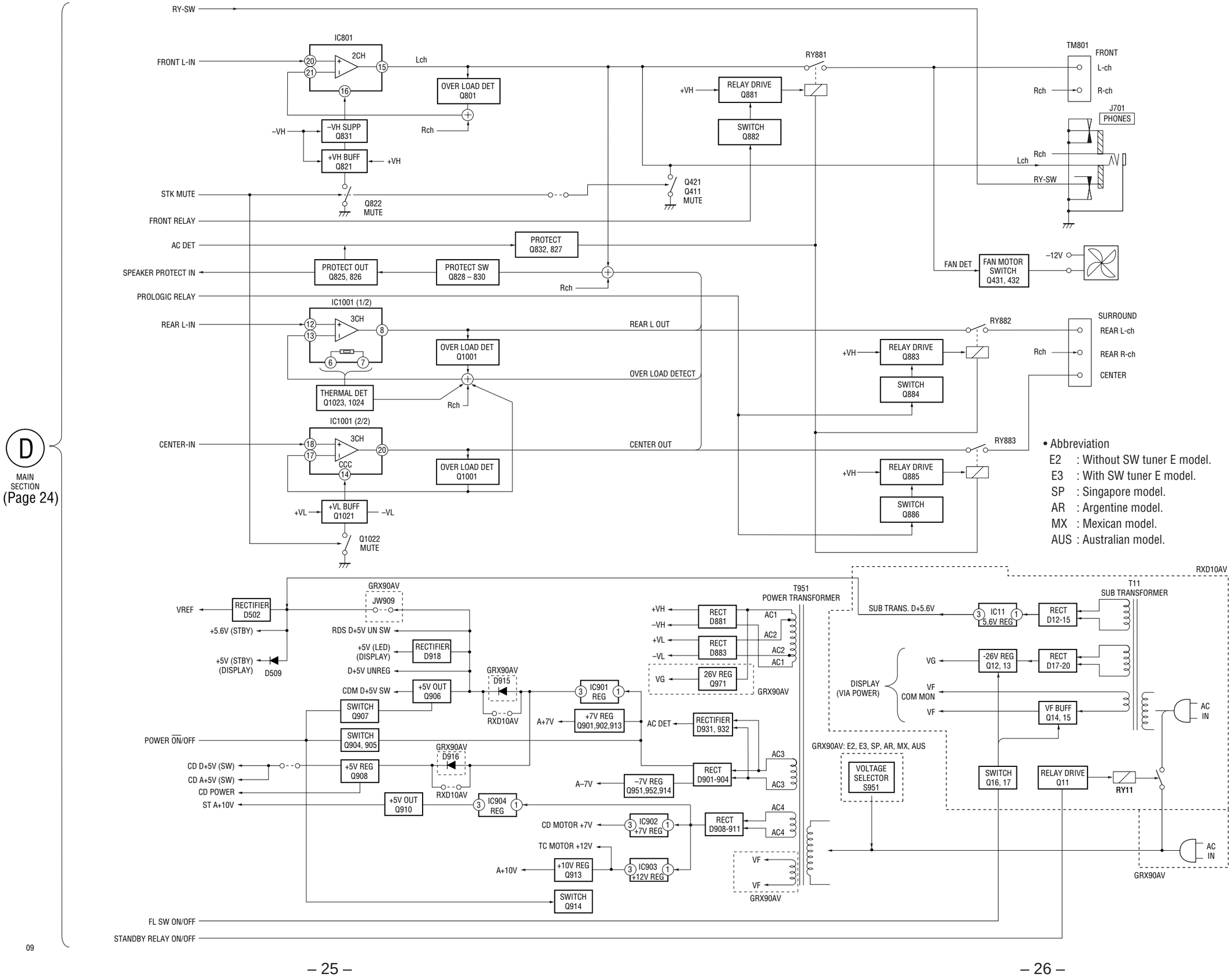
09

– MAIN SECTION –



- R CH: Same as L ch
- SIGNAL PATH
  - ⇨ : FM
  - ⇨ : CD
  - ⇨ : PB
  - ⇨ : REC
  - ⇨ : VIDEO/MD

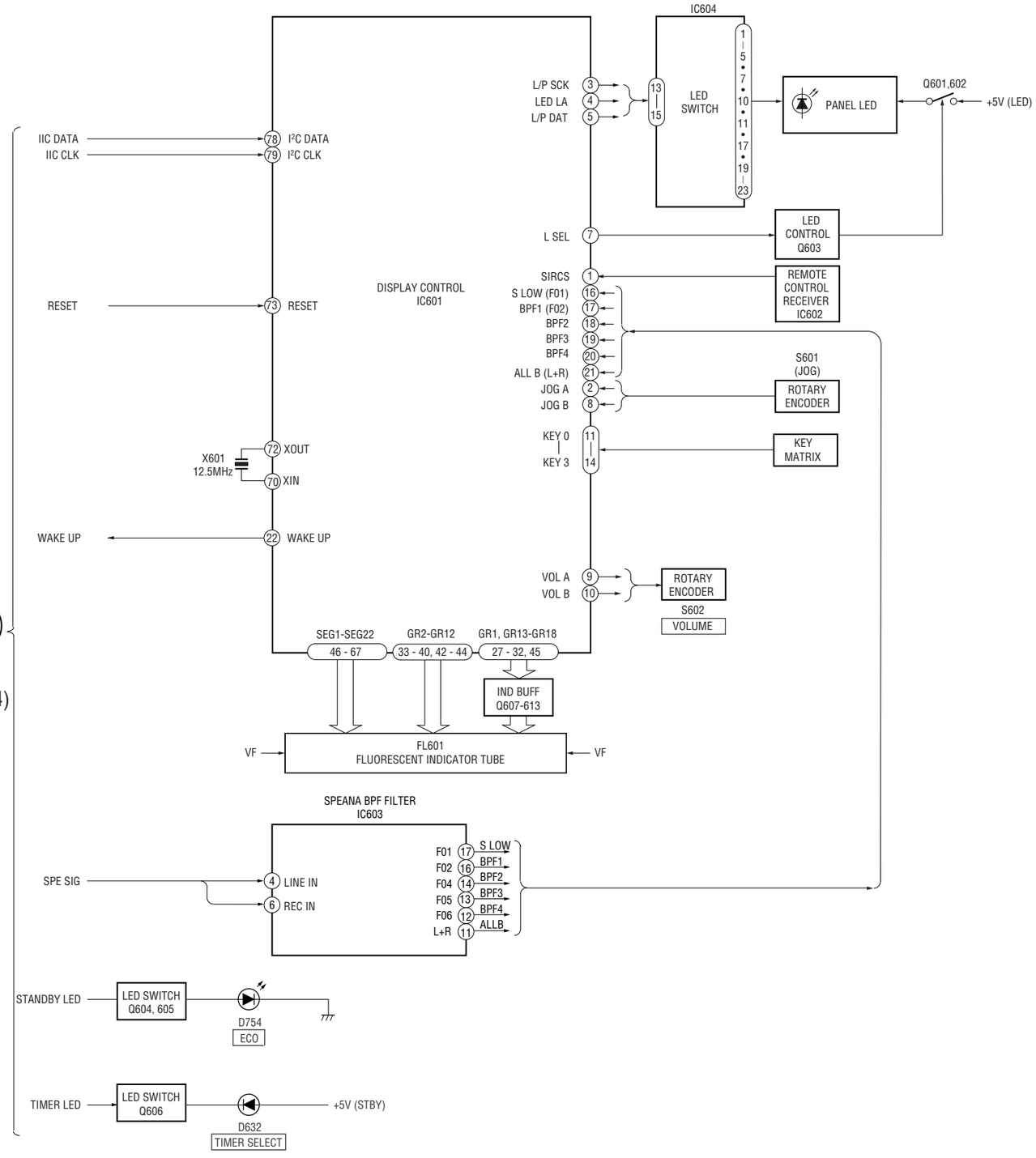
– MAIN POWER/SUB POWER SECTION –



D
MAIN SECTION
(Page 24)

09

– DISPLAY SECTION –



09

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

For schematic diagrams.

Note:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.

Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

- B+ : B+ Line.
- B– : B– Line.
- ▭ : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  - : FM
  - : AM
  - : VIDEO/MD/DVD
  - : PB (DECK A)
  - : PB (DECK B)
  - : REC (DECK B)
  - : CD
  - : digital out
- Abbreviation

  CND : Canadian model.
  G : German model.
  E2 : Without SW tuner E model.
  E3 : With SW tuner E model.
  EA : Saudi Arabia model.
  AUS : Australian model.
  SP : Singapore model.
  AR : Argentine model.
  TH : Thai model.
  MX : Mexican model.

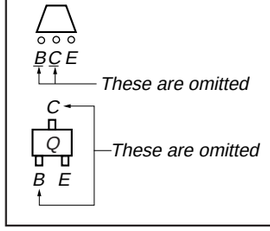
For printed wiring boards.

Note:

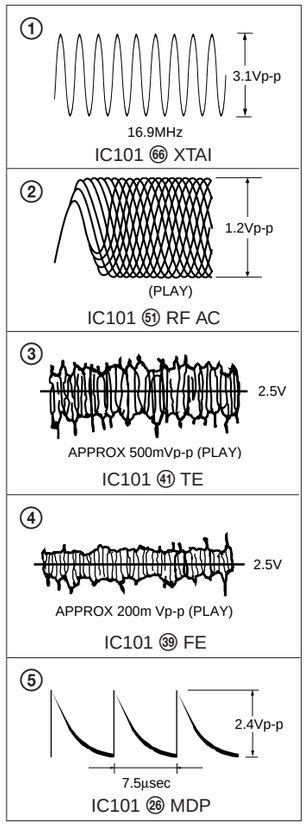
- ○——— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ○ : Through hole.
- ▒▒ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

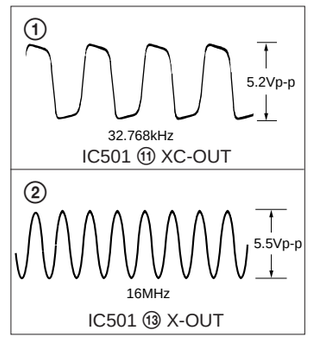
- **Indication of transistor**



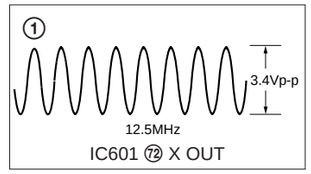
WAVEFORMS
– BD (CD) SECTION –



– MAIN (3/4) SECTION –



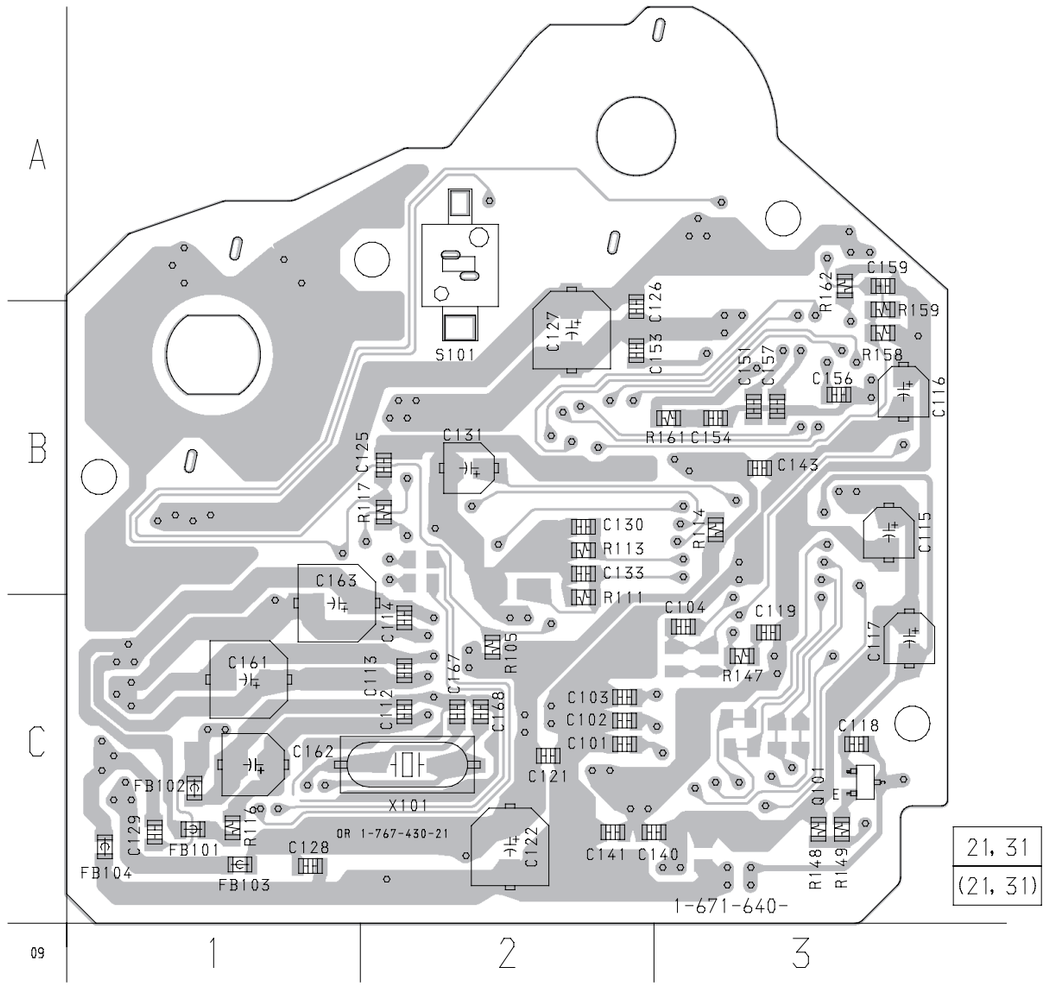
– PANEL (2/2) SECTION –



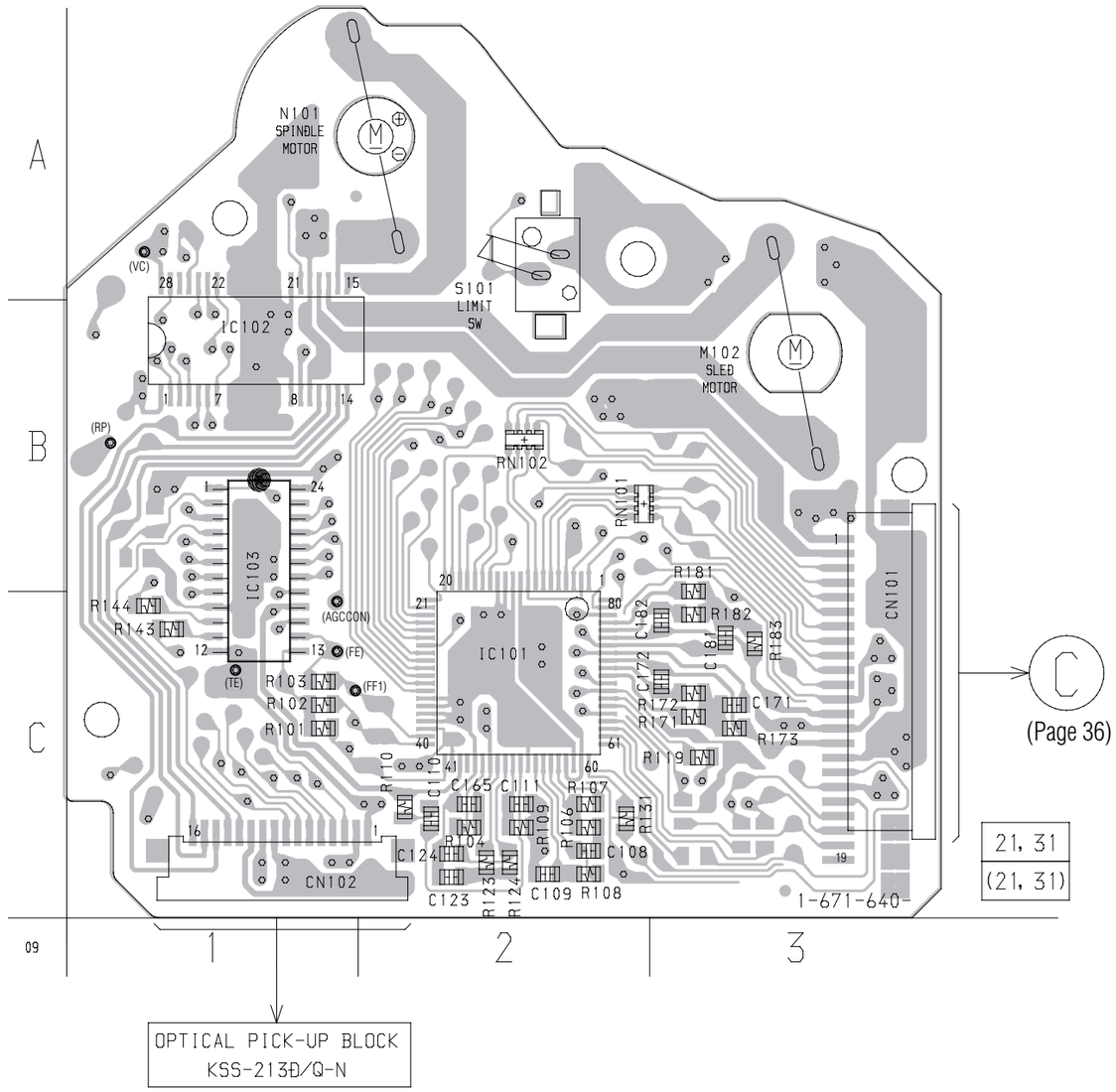
7-3. PRINTED WIRING BOARD – BD (CD) SECTION –

• See page 18 for Circuit Boards Location.

【 BD (CD) BOARD 】(SIDE A)

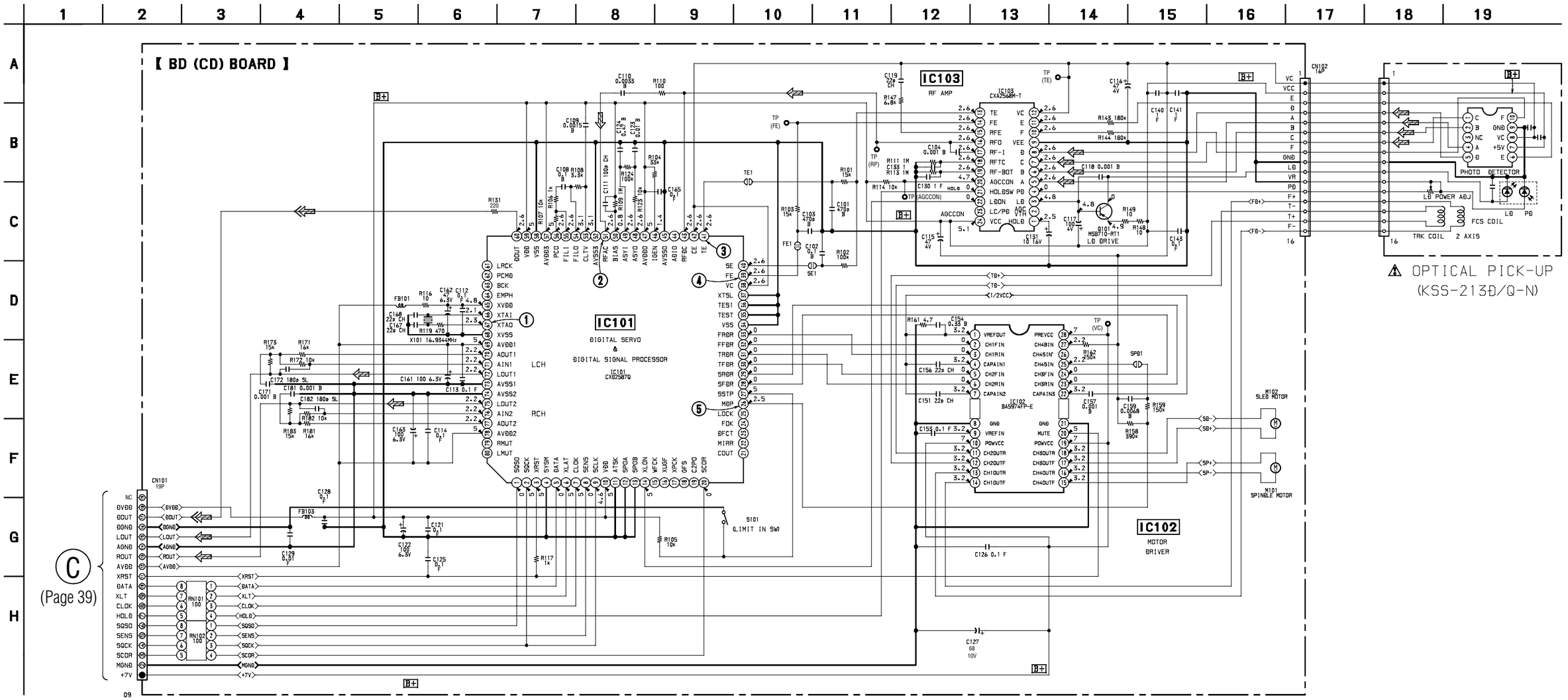


【 BD (CD) BOARD 】(SIDE B)



7-4. SCHEMATIC DIAGRAM – BD (CD) SECTION –

• See page 30 for Waveforms.



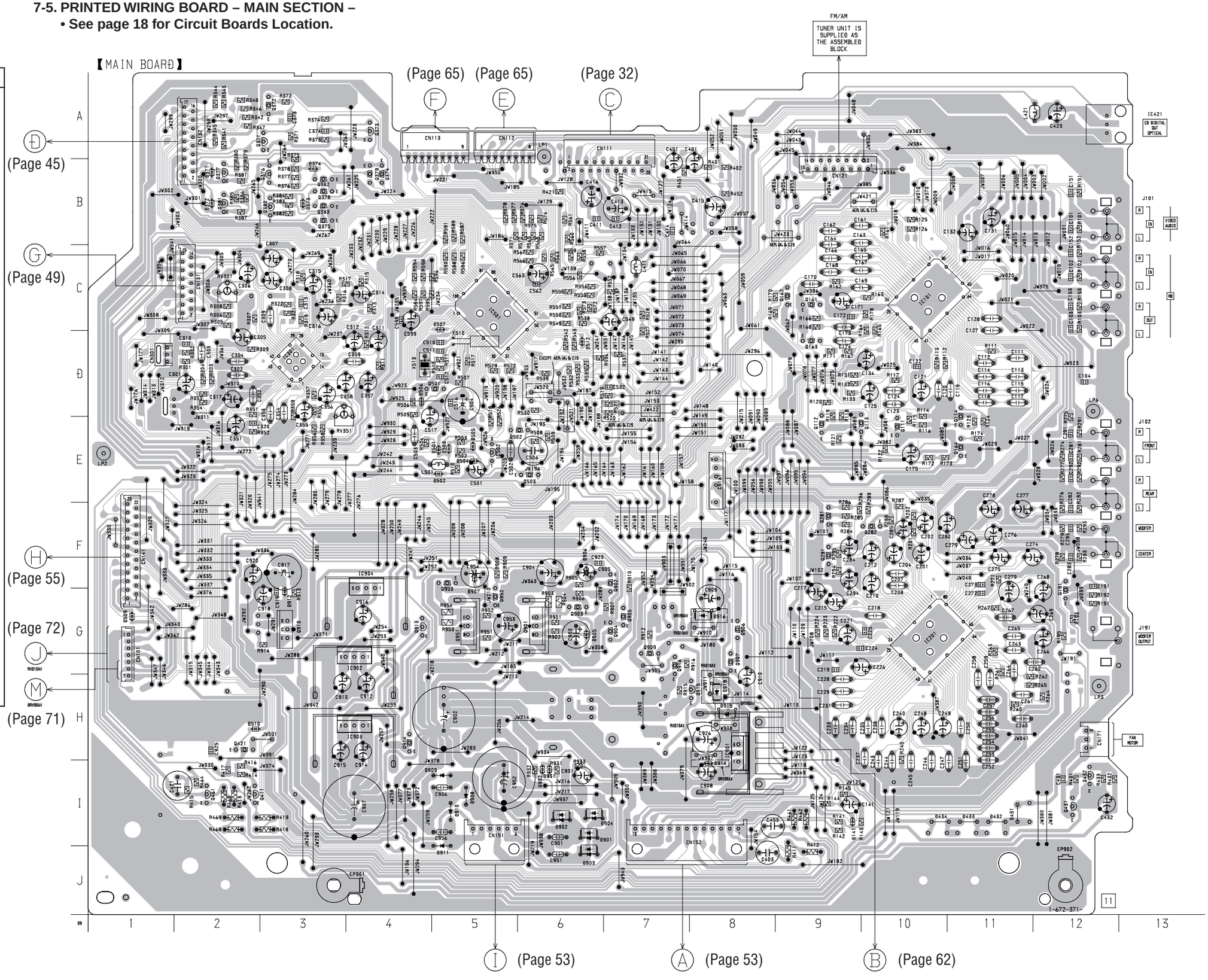
Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

7-5. PRINTED WIRING BOARD – MAIN SECTION –

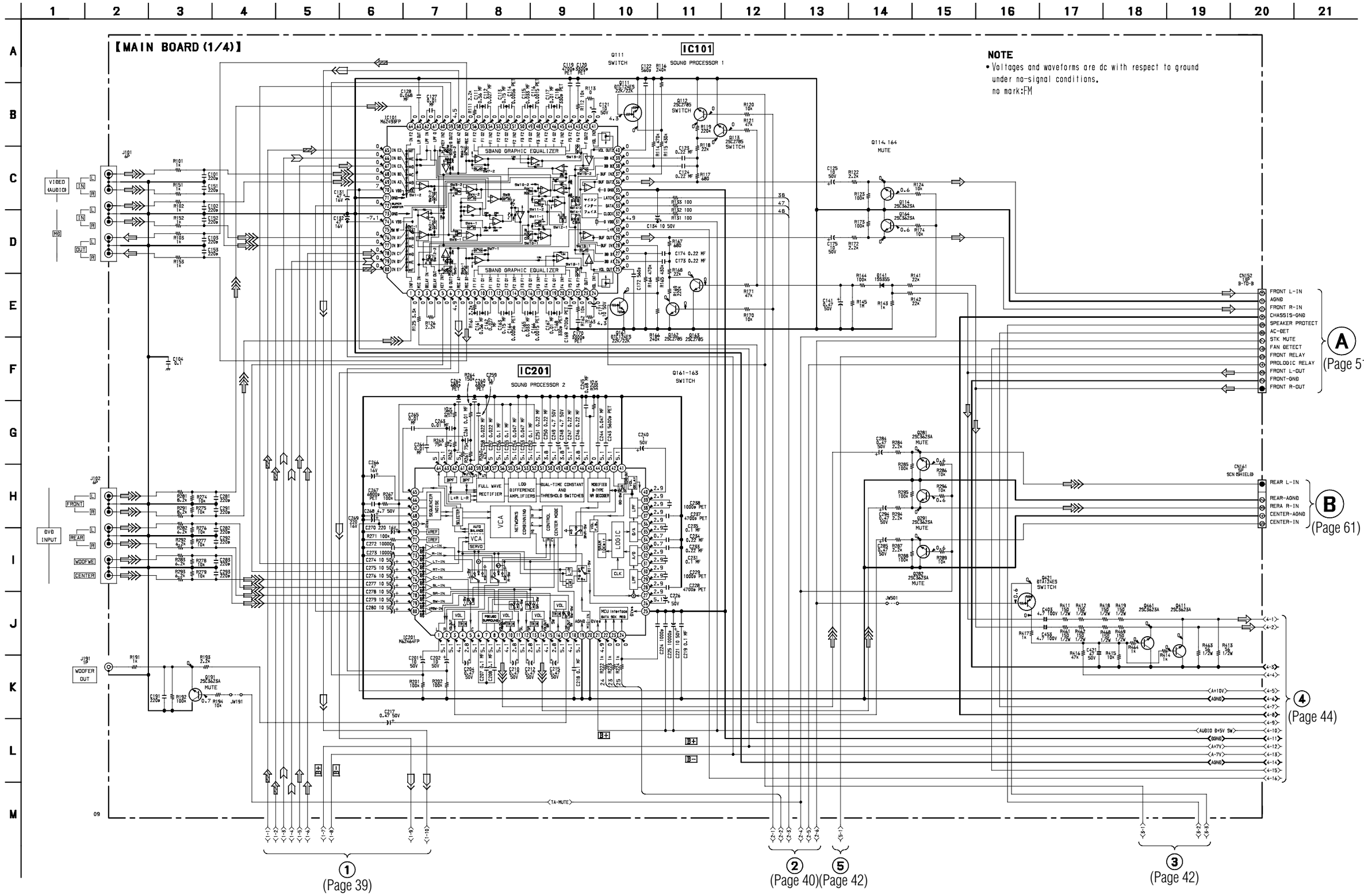
• See page 18 for Circuit Boards Location.

• **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location
D141	I-9	Q111	E-10
D371	B-2	Q112	E-9
D372	B-2	Q113	E-10
D373	B-3	Q114	D-11
D374	B-3	Q161	C-9
D431	I-11	Q162	C-9
D432	I-11	Q163	D-9
D433	I-11	Q164	E-11
D434	I-10	Q191	F-12
D501	E-5	Q281	F-9
D502	E-5	Q282	F-10
D503	E-5	Q291	F-9
D504	E-5	Q371	A-3
D505	E-5	Q372	A-3
D506	D-4	Q373	A-4
D507	C-5	Q374	B-4
D509	G-1	Q375	B-3
D510	H-2	Q376	B-3
D512	D-6	Q377	B-2
D901	I-6	Q378	B-3
D902	I-6	Q379	B-4
D903	J-6	Q380	B-3
D904	I-6	Q381	B-2
D905	G-6	Q382	B-3
D906	F-6	Q383	B-3
D907	F-5	Q411	I-2
D908	I-5	Q421	H-2
D909	I-5	Q431	I-12
D910	I-5	Q432	I-12
D911	I-5	Q461	I-2
D912	G-3	Q501	D-5
D914	I-8	Q502	E-5
D915	H-8	Q503	E-6
D916	G-8	Q901	G-6
D918	H-8	Q902	F-7
D931	I-6	Q903	G-6
D932	I-6	Q904	G-7
		Q905	G-7
IC101	C-10	Q906	G-8
IC201	G-10	Q907	G-8
IC301	D-3	Q909	G-7
IC421	A-13	Q910	G-3
IC501	C-5	Q913	G-4
IC502	E-5	Q914	H-4
IC901	H-8	Q915	H-8
IC902	G-4	Q916	G-7
IC903	H-4	Q951	G-5
IC904	F-4	Q952	G-5
		Q953	F-5

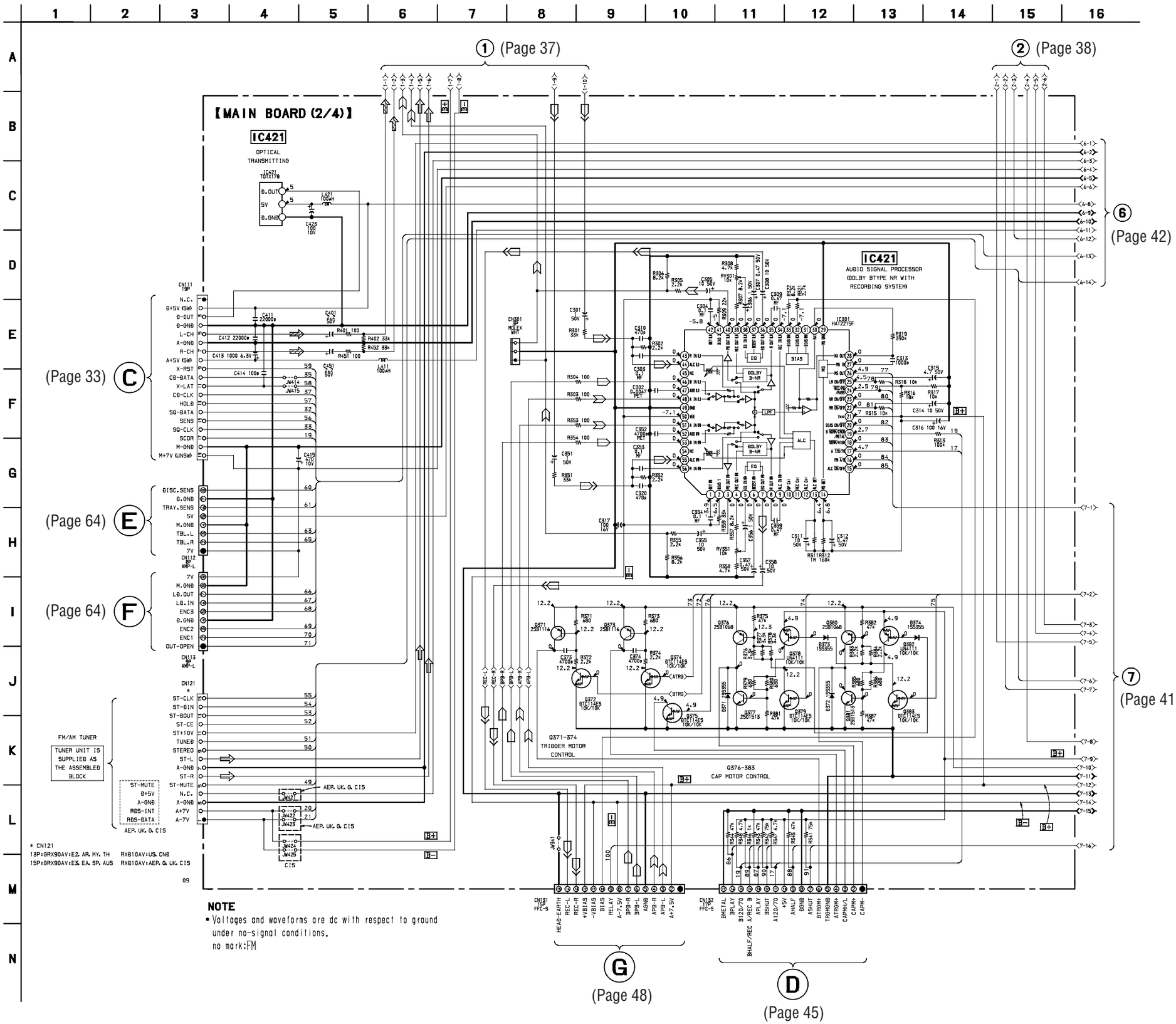


7-6. SCHEMATIC DIAGRAM – MAIN (1/4) SECTION –



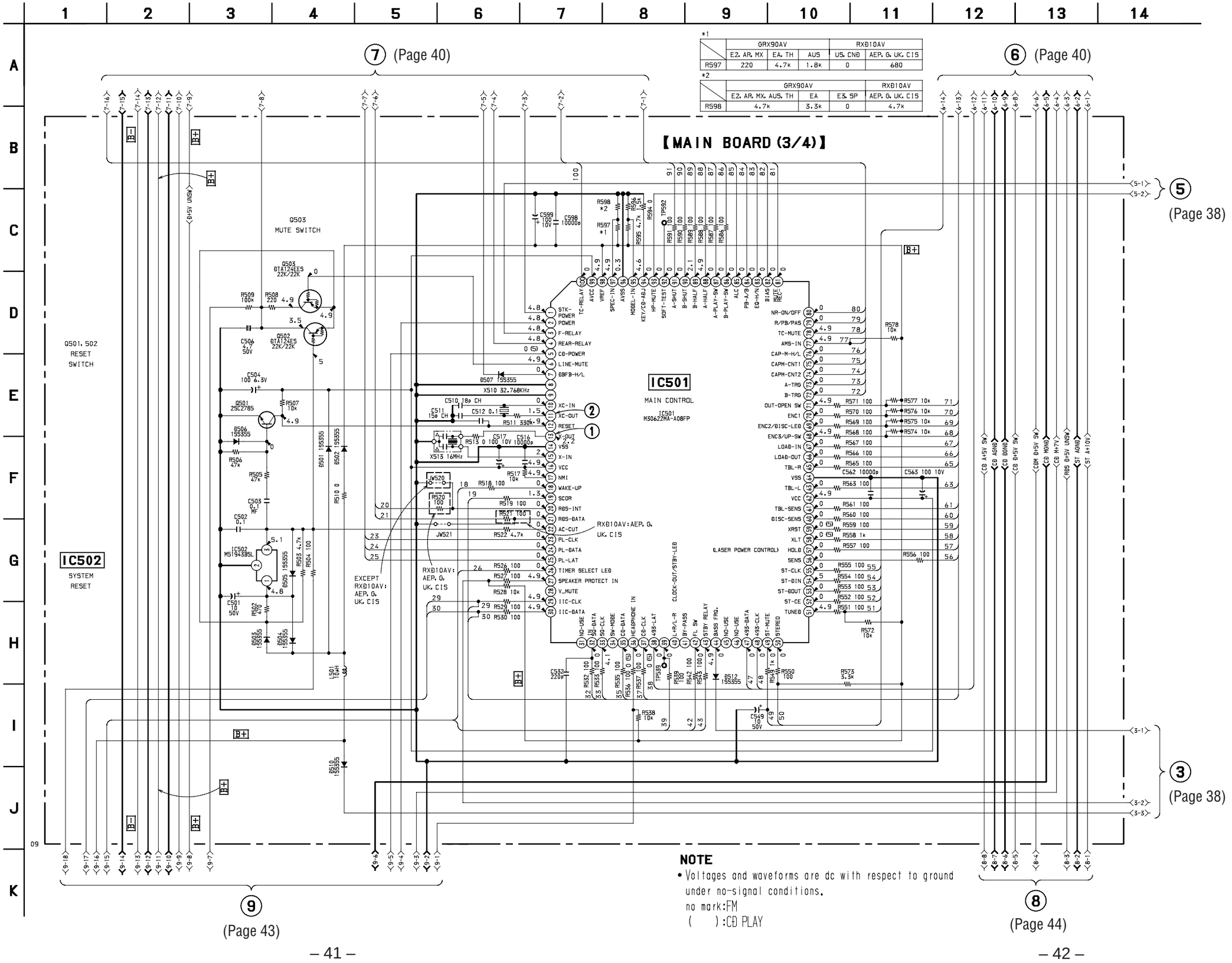
7-7. SCHEMATIC DIAGRAM – MAIN (2/4) SECTION –

• See page 35 for Printed Wiring Board.



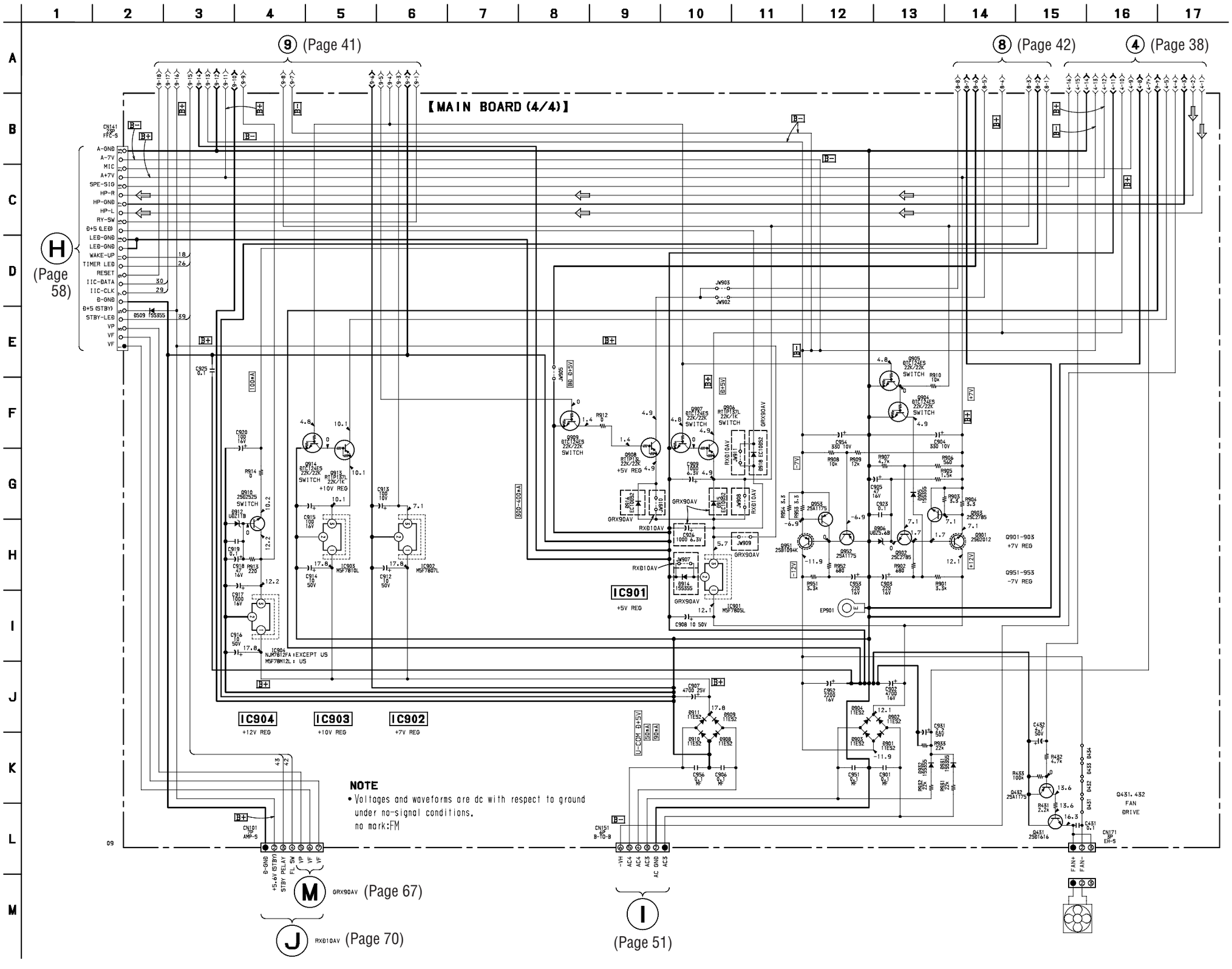
7-8. SCHEMATIC DIAGRAM – MAIN (3/4) SECTION –

- **See page 30 for Waveforms.**
- **See page 35 for Printed Wiring Board.**
- **See page 74 for IC Pin Functions.**



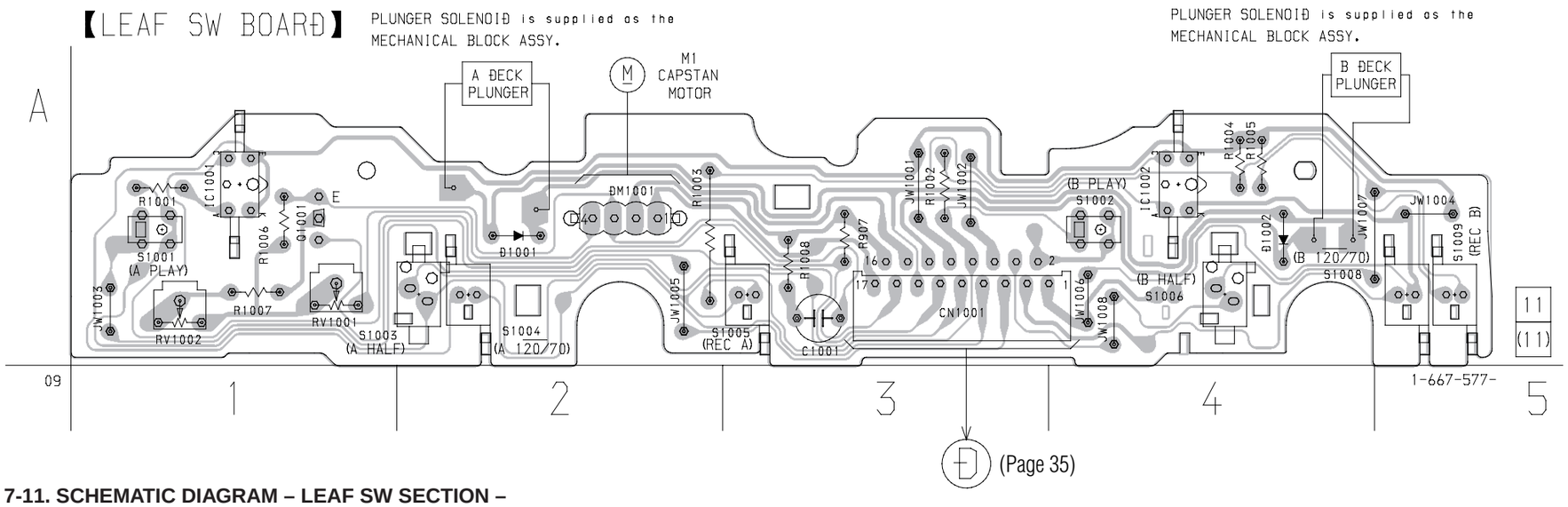
7-9. SCHEMATIC DIAGRAM – MAIN (4/4) SECTION –

• See page 35 for Printed Wiring Board.

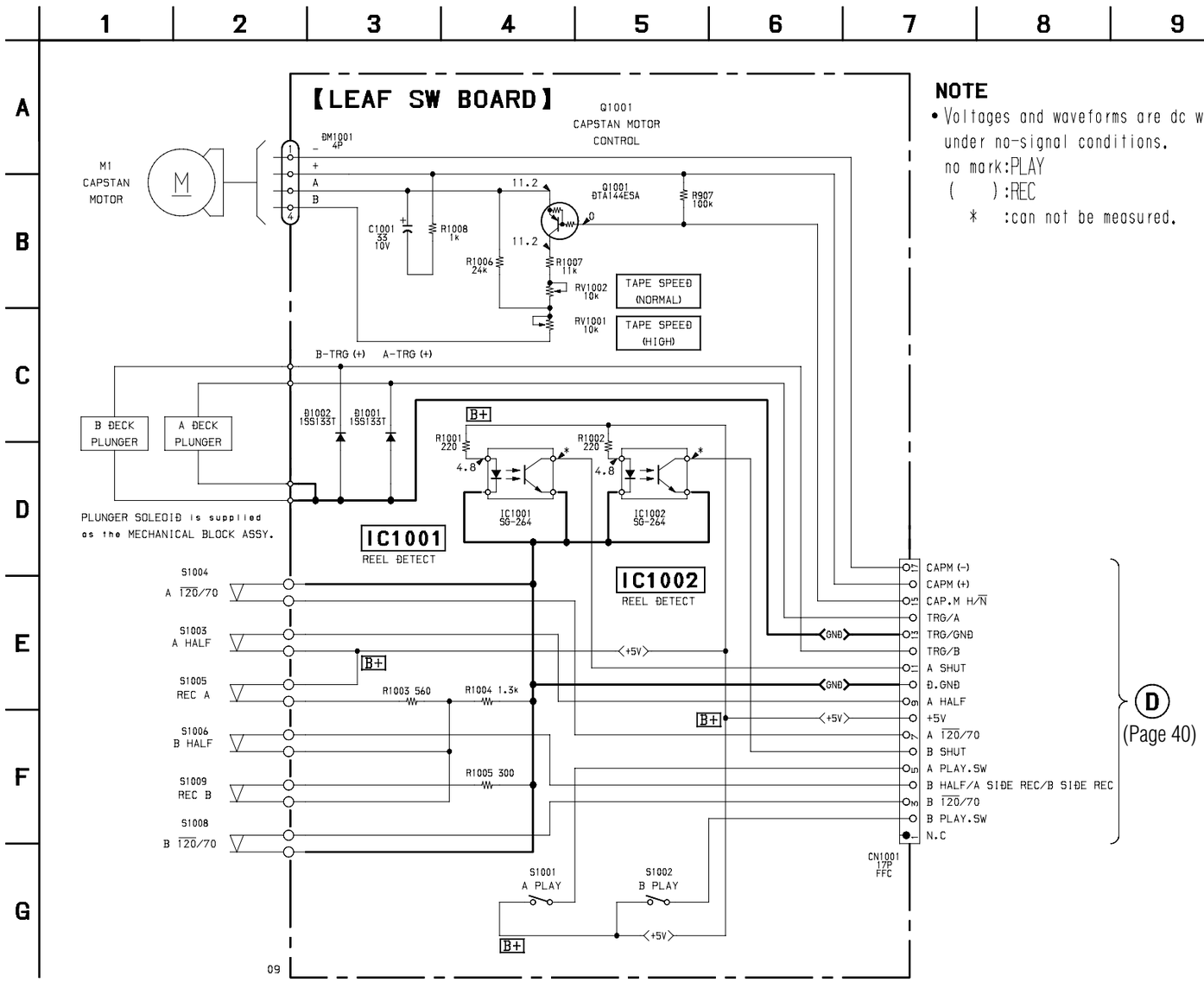


7-10. PRINTED WIRING BOARD – LEAF SW SECTION –

• See page 18 for Circuit Boards Location.



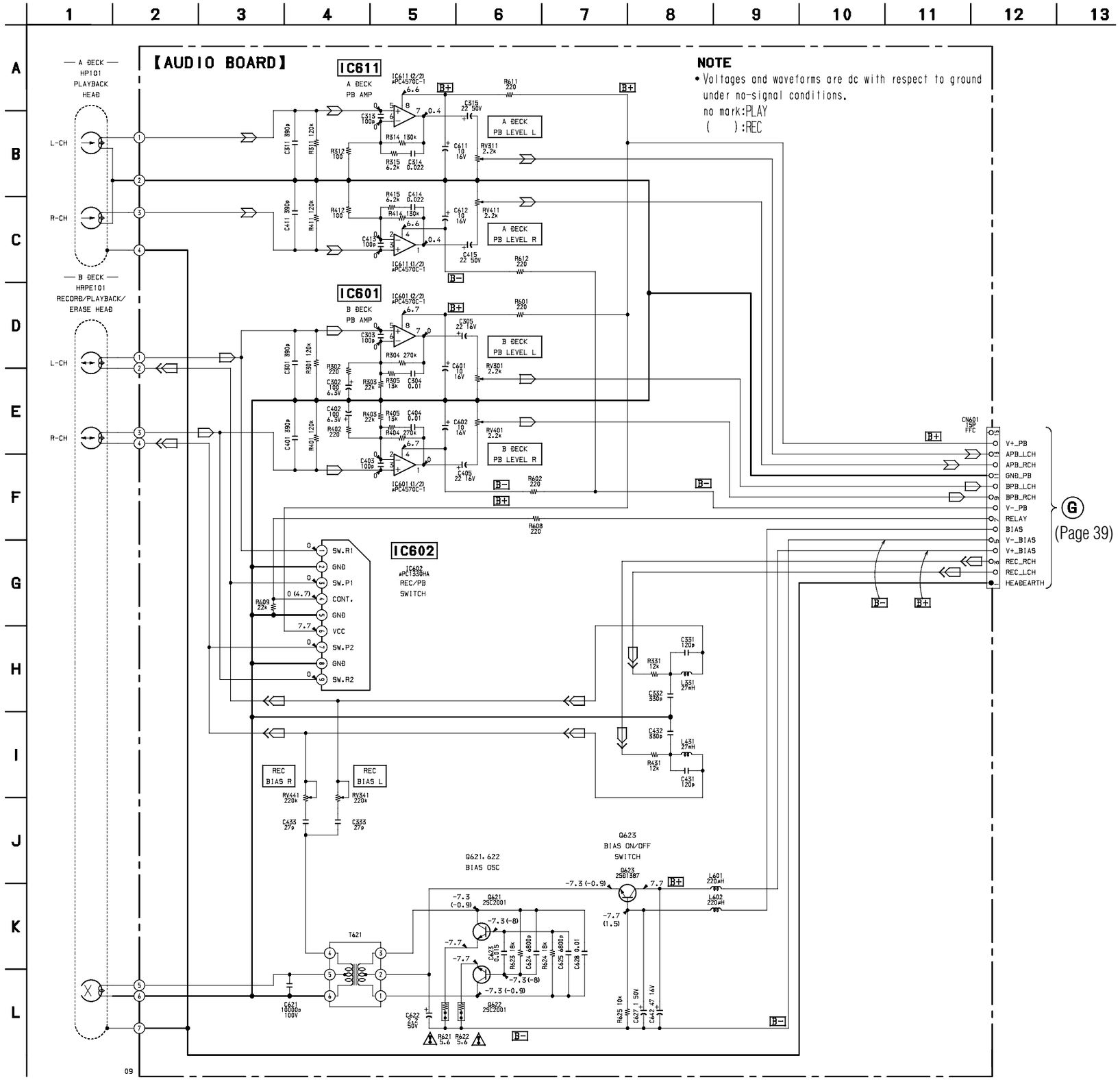
7-11. SCHEMATIC DIAGRAM – LEAF SW SECTION –



NOTE

- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark:PLAY
  ( ):REC
  * :can not be measured.

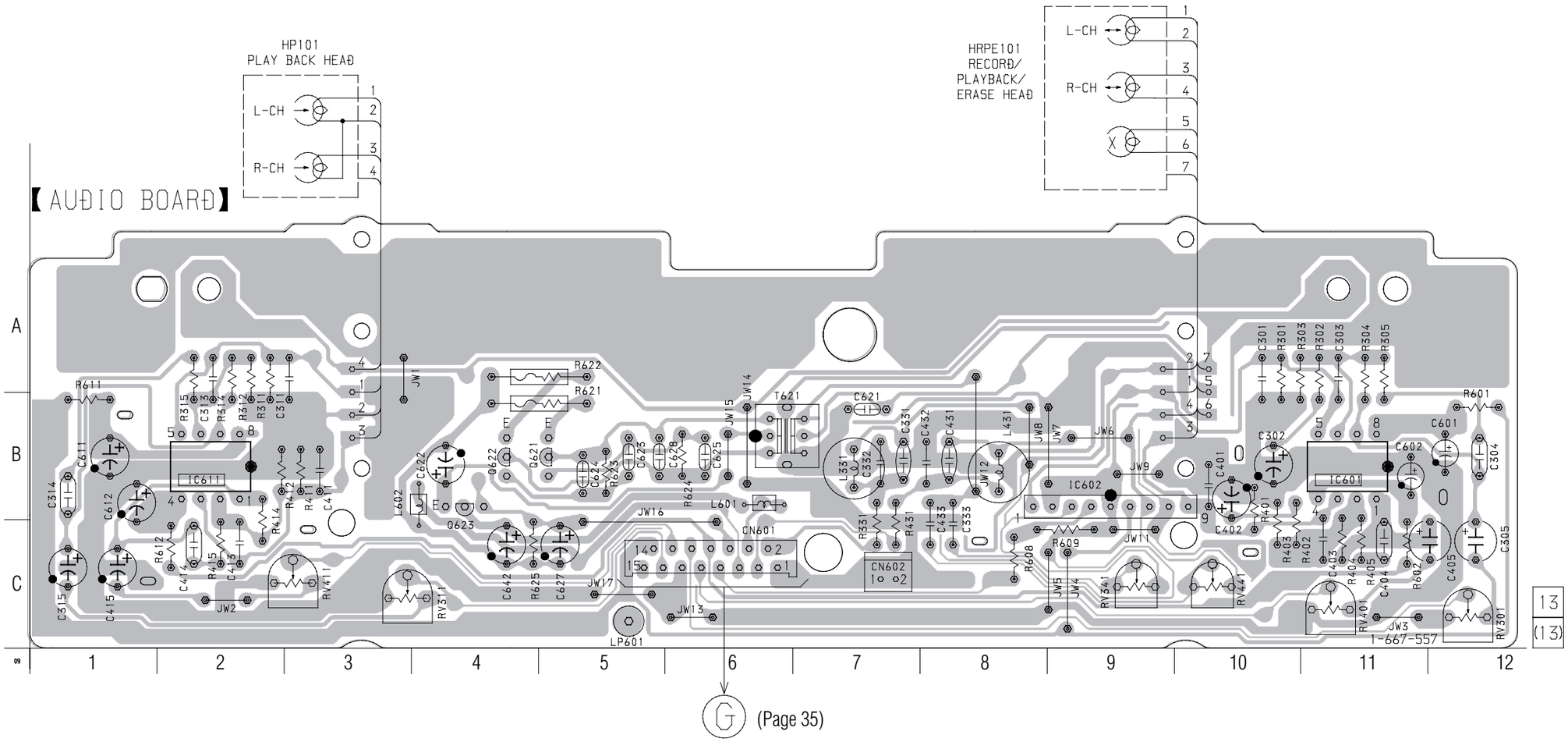
7-12. SCHEMATIC DIAGRAM – DECK SECTION –



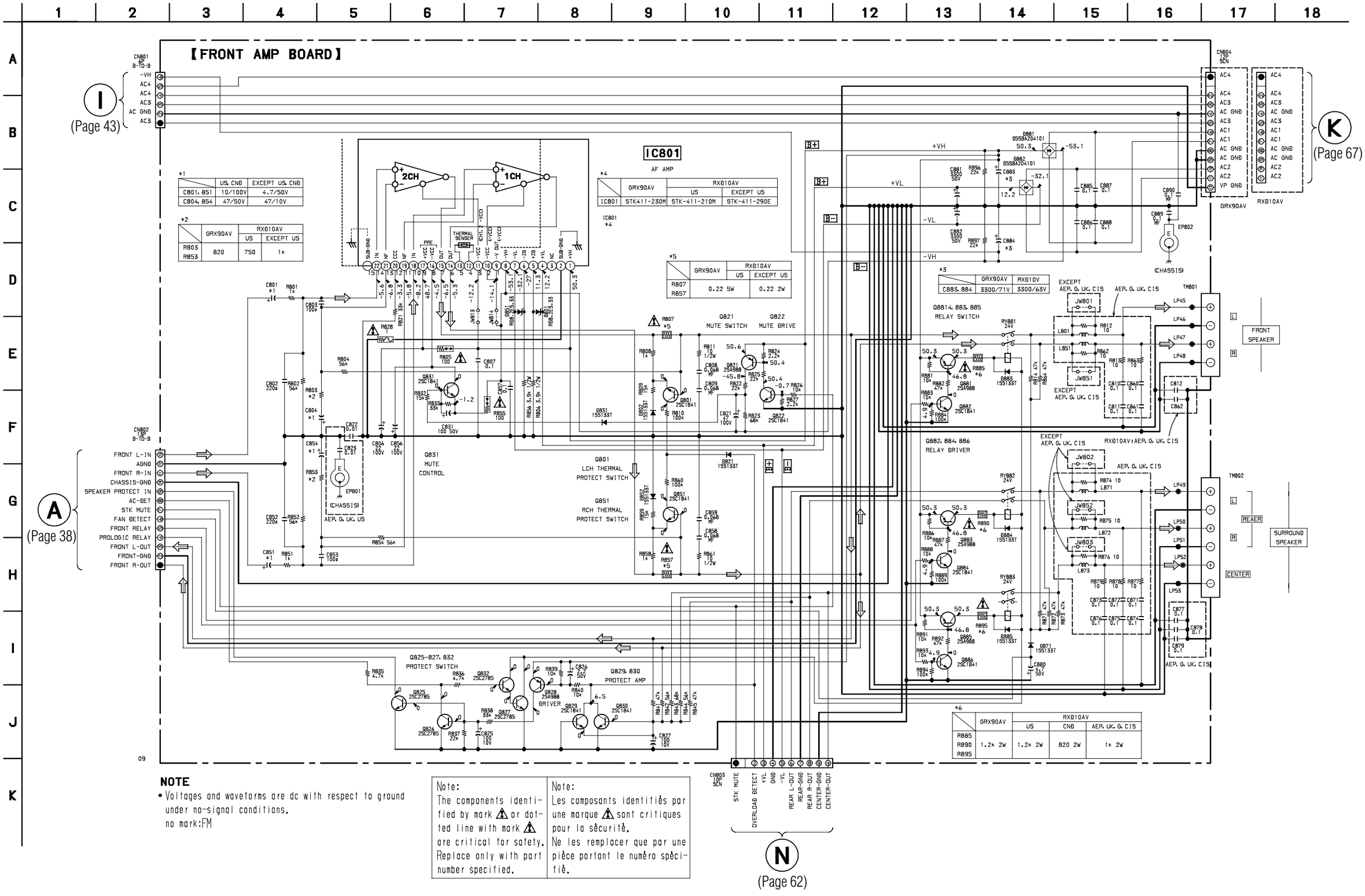
Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

7-13. PRINTED WIRING BOARD – DECK SECTION –

• See page 18 for Circuit Boards Location.



7-14. SCHEMATIC DIAGRAM – FRONT PANEL SECTION –



*1	US, CND	EXCEPT US, CND
C801, 851	10/100V	4.7/50V
C804, 854	47/50V	47/10V

*2	GRX90AV	RXD10AV	
		US	EXCEPT US
R803 R853	820	750	1k

*3	GRX90AV	RXD10V
C883, 884	3300/71V	3300/63V

*4	GRX90AV	RXD10AV	
		US	EXCEPT US
IC801	STK411-230M	STK-411-210M	STK-411-290E

*5	GRX90AV	RXD10AV	
		US	EXCEPT US
R807 R857	0.22 5W		0.22 2W

*6	GRX90AV	RXD10AV		
		US	CND	AEP, UK, G, CIS
R885 R890 R895	1.2k 2W	1.2k 2W	820 2W	1k 2W

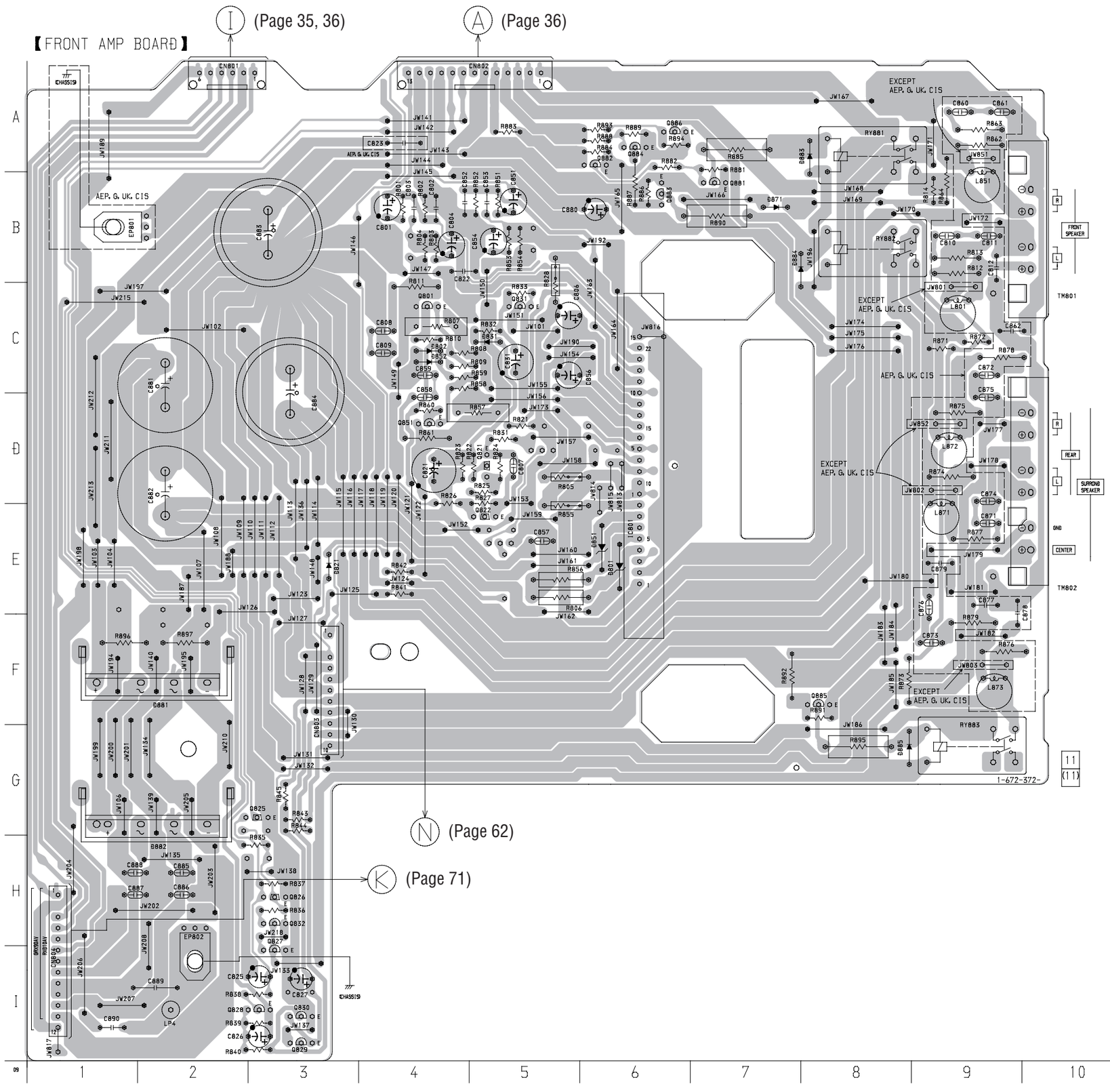
NOTE

- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark:FM

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Note: Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

7-15. PRINTED WIRING BOARD – FRONT PANEL SECTION –

• See page 18 for Circuit Boards Location.



- **Semiconductor Location**

Ref. No.	Location
D801	E-6
D802	C-4
D821	E-3
D831	C-5
D851	E-6
D852	C-4
D871	B-7
D881	F-2
D882	G-2
D883	A-8
D884	B-8
D885	G-8
IC801	E-6
Q801	C-4
Q821	D-5
Q822	E-5
Q825	G-3
Q826	H-3
Q827	H-3
Q828	I-2
Q829	I-3
Q830	I-3
Q831	C-5
Q851	D-4
Q881	B-7
Q882	A-6
Q883	B-6
Q884	A-6
Q885	F-8
Q886	A-6

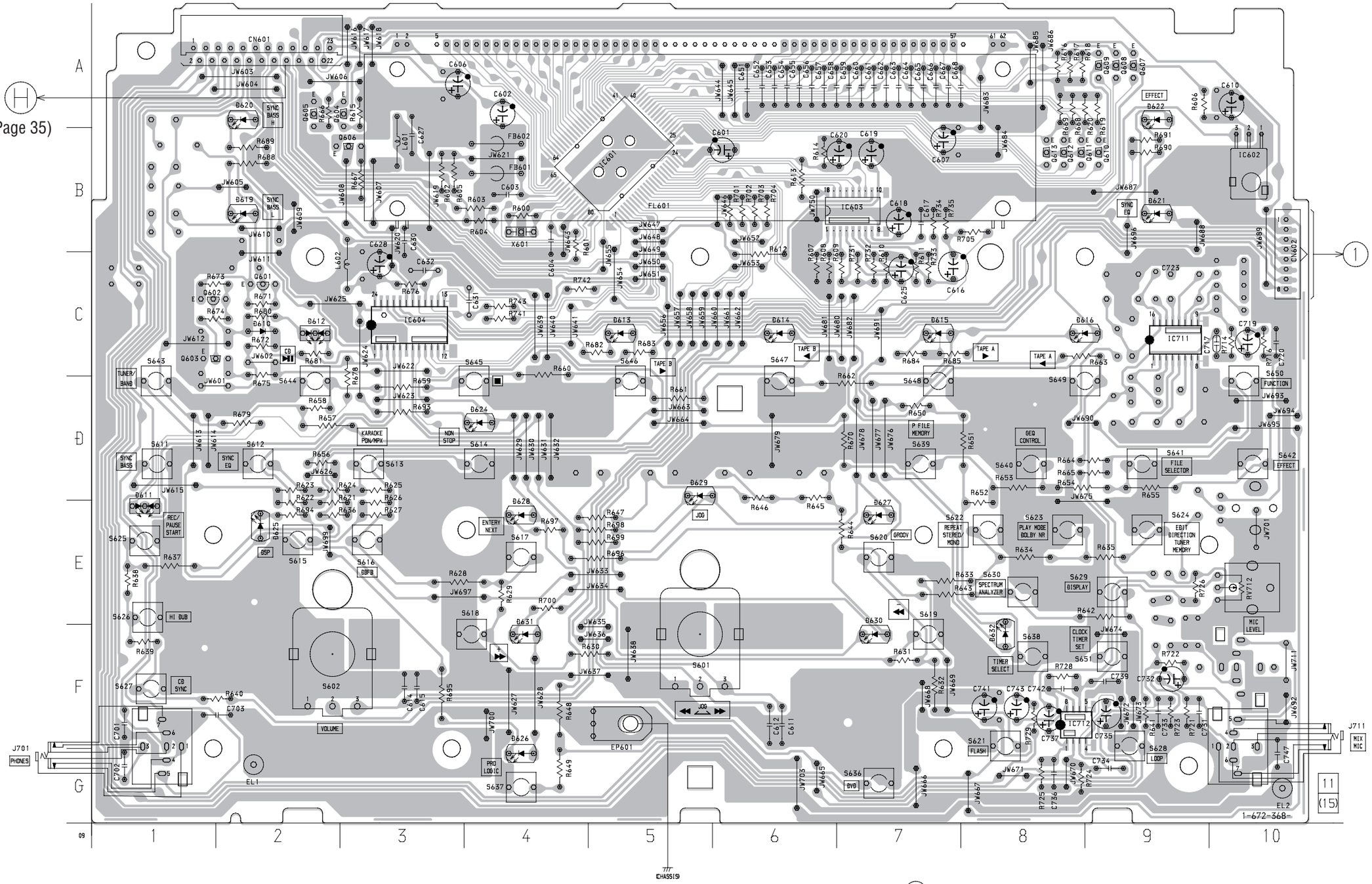
7-16. PRINTED WIRING BOARD – PANEL SECTION –

• See page 18 for Circuit Boards Location.

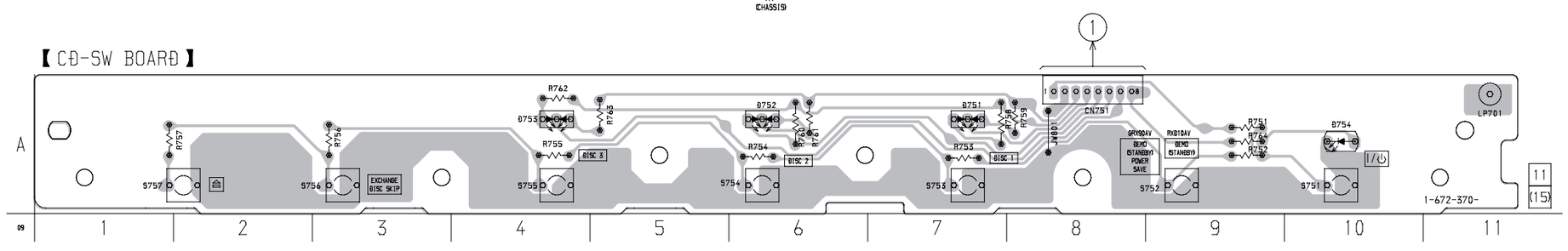
- **Semiconductor Location**

Ref. No.	Location
D610	C-2
D611	D-1
D612	C-2
D613	C-5
D614	C-6
D615	C-7
D616	C-9
D619	B-2
D620	A-2
D621	B-9
D622	A-9
D624	D-4
D625	E-2
D626	F-4
D627	E-7
D628	E-4
D629	D-5
D630	E-7
D631	E-4
D632	F-8
IC601	B-5
IC602	B-10
IC603	B-7
IC604	C-3
IC712	F-8
Q601	C-2
Q602	C-1
Q603	C-1
Q604	A-2
Q605	A-2
Q606	B-3
Q607	A-9
Q608	A-9
Q609	A-9
Q610	B-9
Q611	B-9
Q612	B-8
Q613	B-8

【PANEL BOARD】

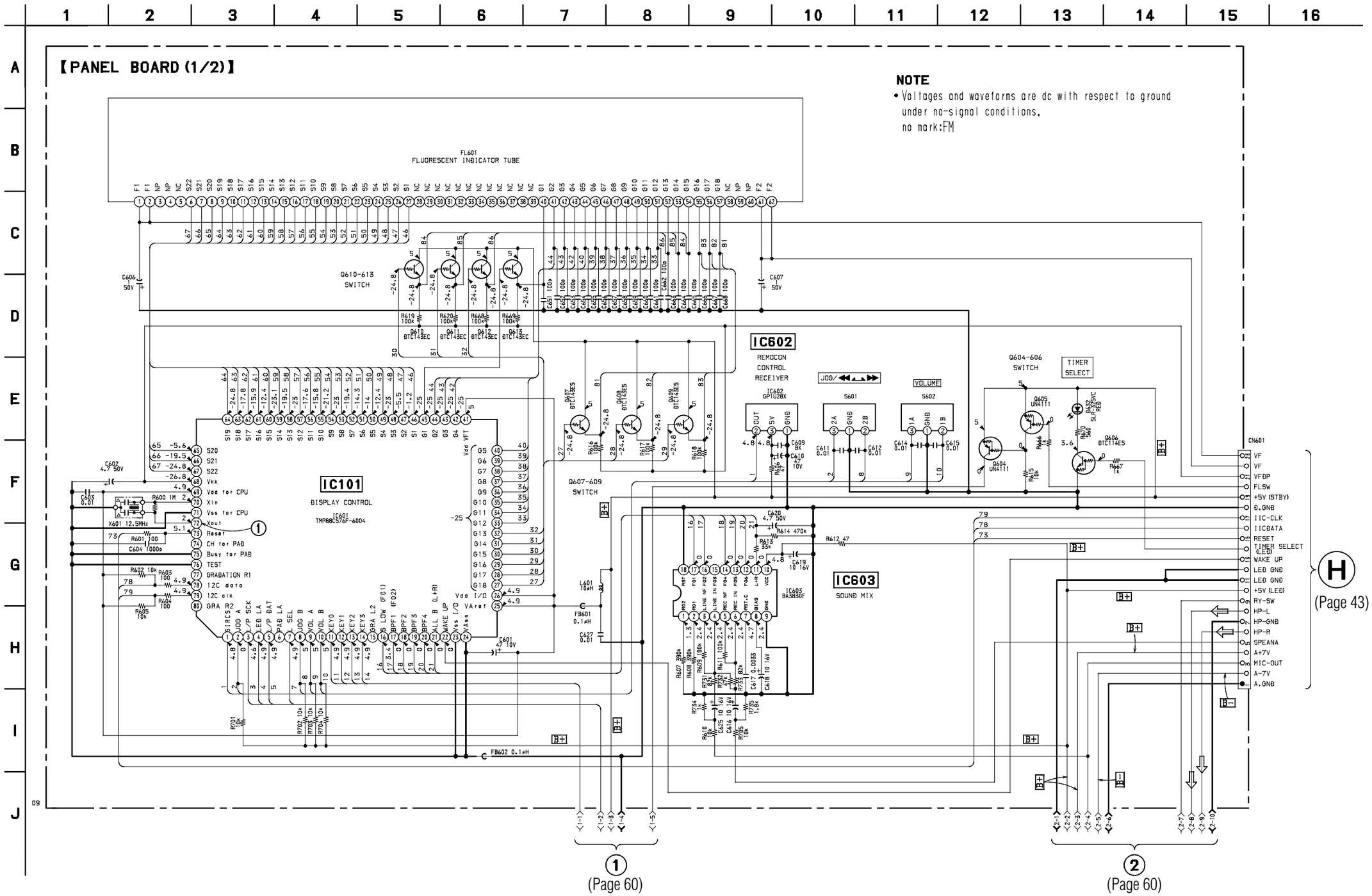


【CD-SW BOARD】



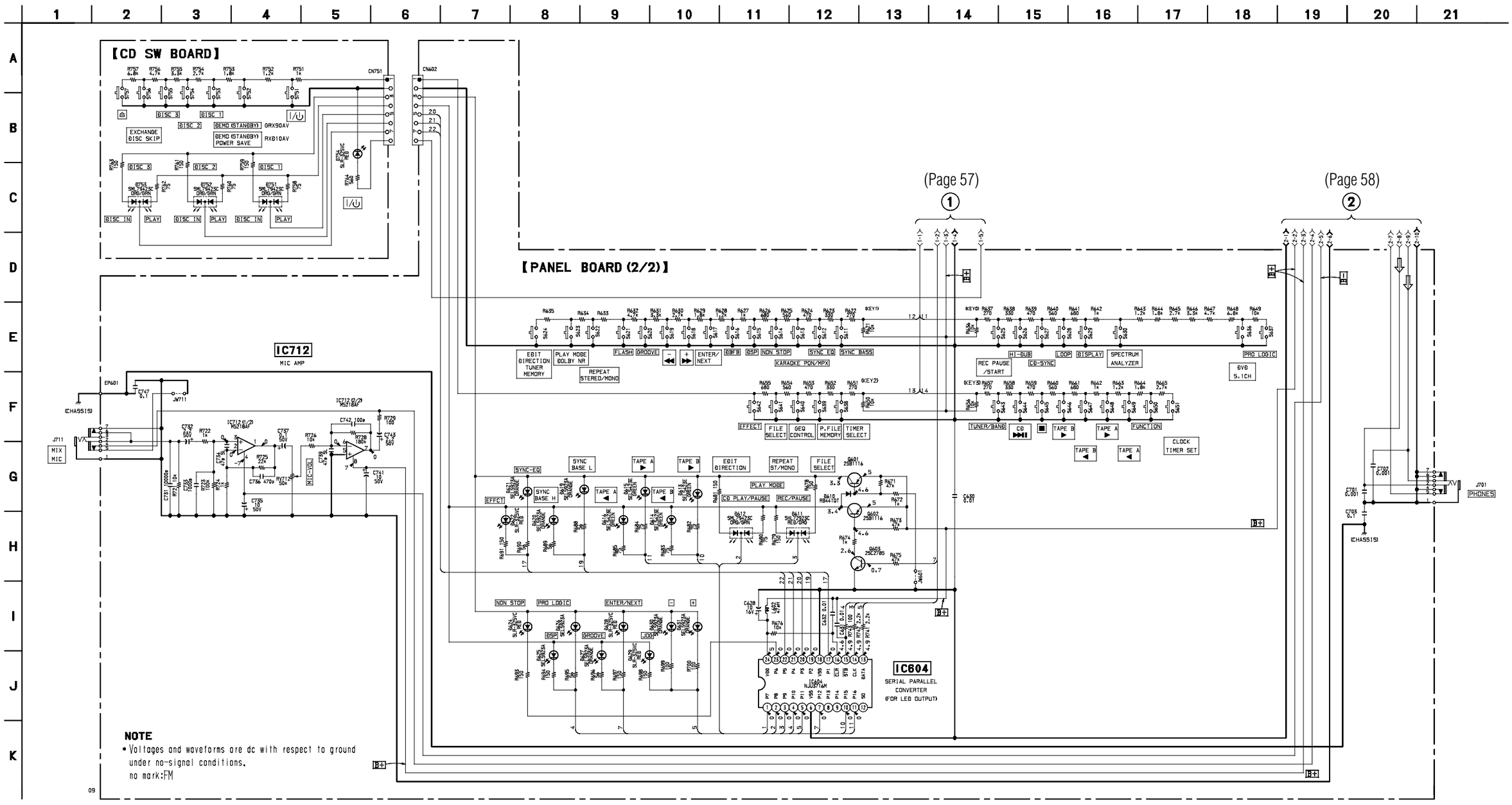
7-17. SCHEMATIC DIAGRAM – PANEL (1/2) SECTION –

- **See page 73 for IC Block Diagrams.**
- **See page 76 for IC Pin Functions.**

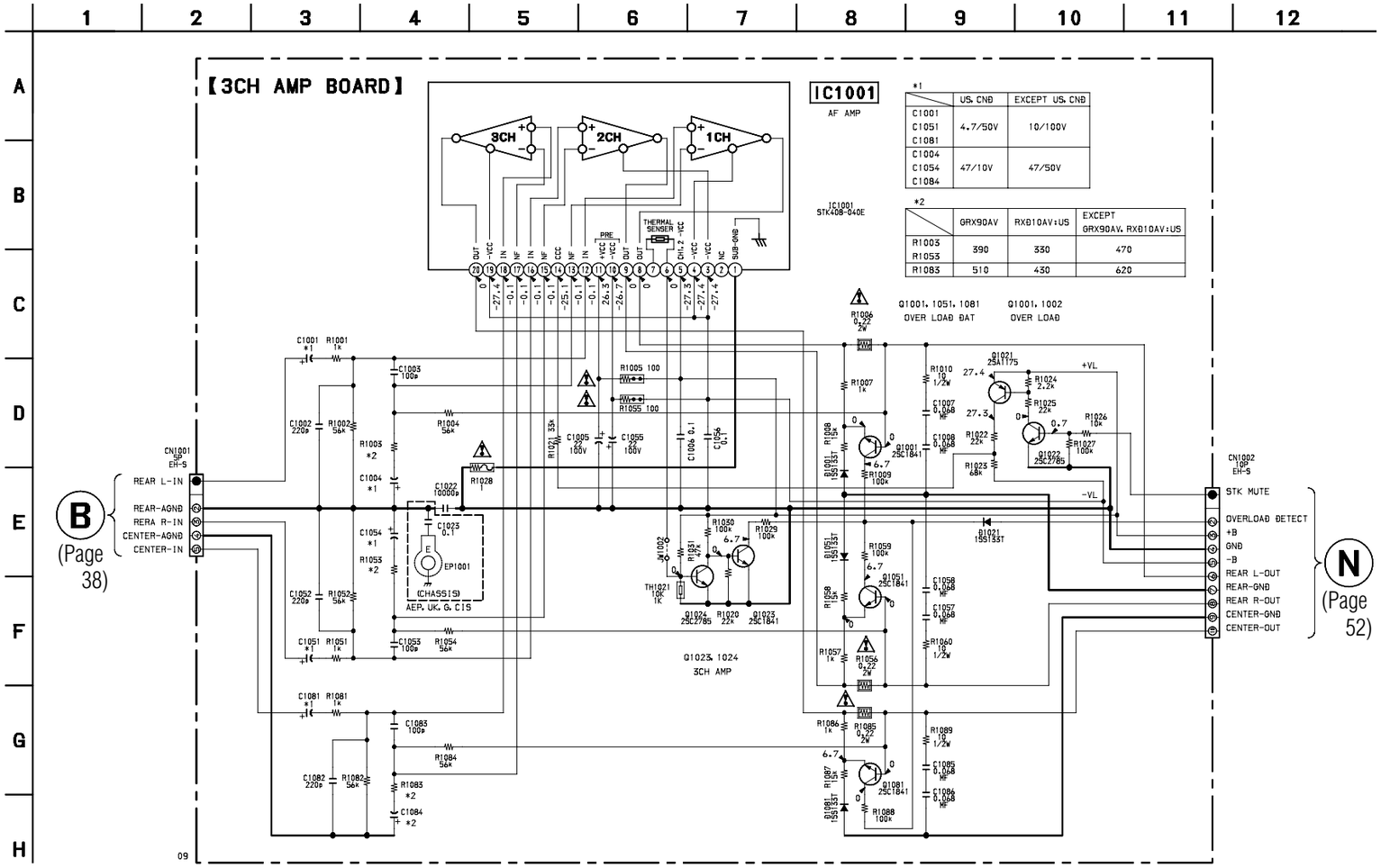


7-18. SCHEMATIC DIAGRAM – PANEL (2/2) SECTION –

- See page 30 for Waveforms.
- See page 51 for Printed Wiring Board.
- See page 73 for IC Block Diagrams.



7-19. SCHEMATIC DIAGRAM – SURROUND SECTION –

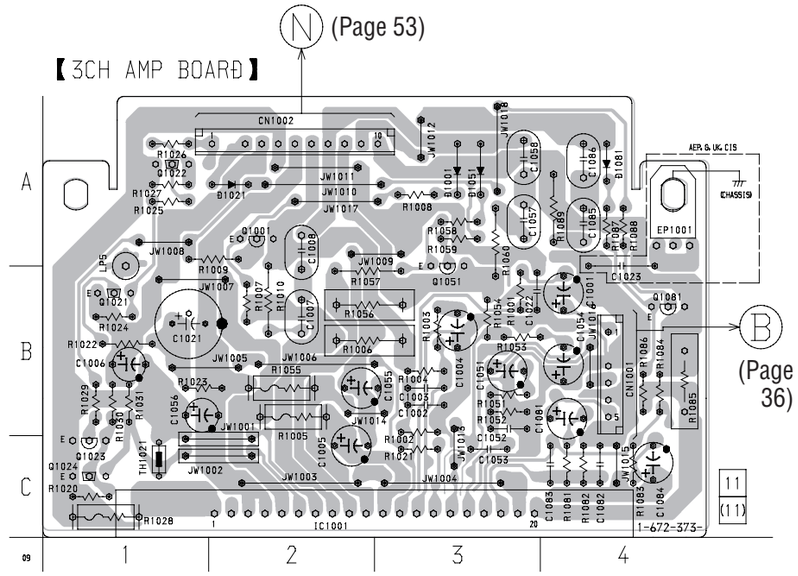


*1	US, CND	EXCEPT US, CND
C1001 C1051 C1081	4.7/50V	10/100V
C1004 C1054 C1084	47/10V	47/50V

*2	GRX90AV	RXD10AV:US	EXCEPT GRX90AV, RXD10AV:US
R1003 R1053	390	330	470
R1083	510	430	620

7-20. PRINTED WIRING BOARD – SURROUND SECTION –

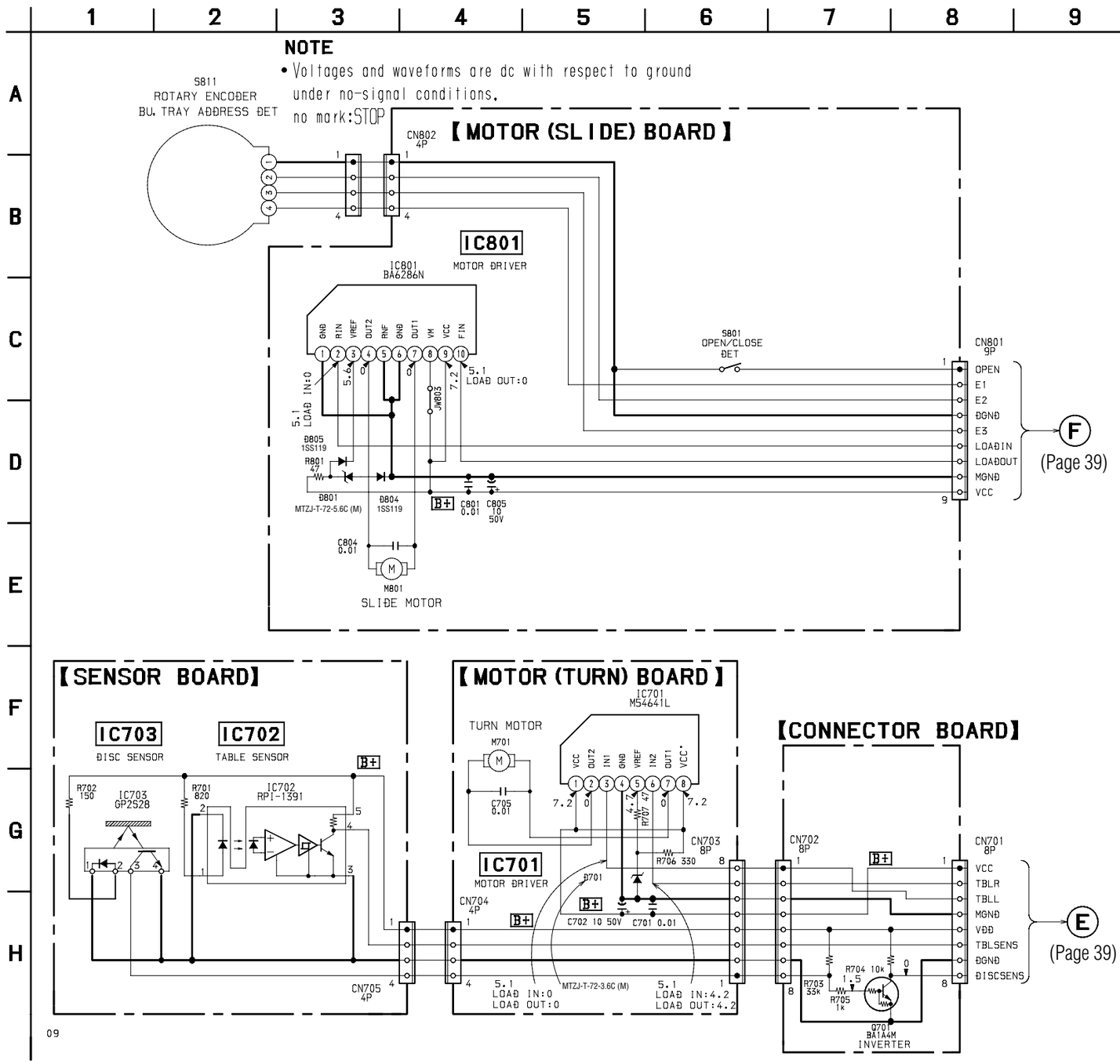
• See page 18 for Circuit Boards Location.



• Semiconductor Location

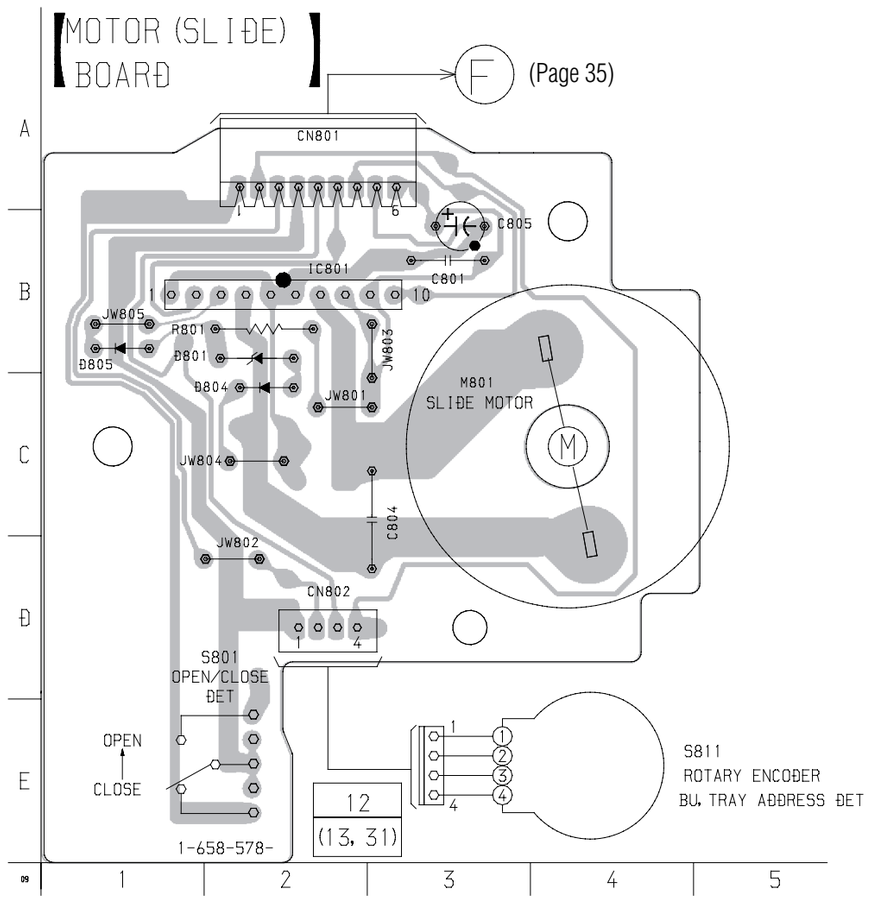
Ref. No.	Location
D1001	A-3
D1021	A-2
D1051	A-3
D1081	A-4
IC1001	C-2
Q1001	A-2
Q1021	B-1
Q1022	A-1
Q1023	C-1
Q1024	C-1
Q1051	B-3
Q1081	B-4

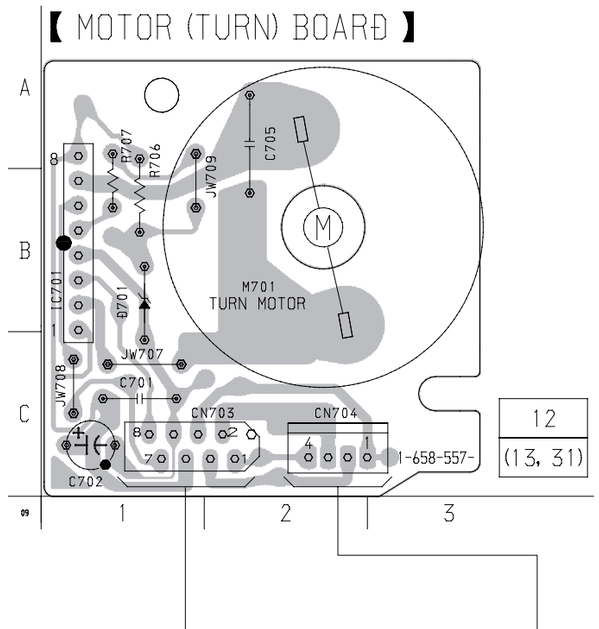
7-21. SCHEMATIC DIAGRAM – CD MOTOR SECTION –

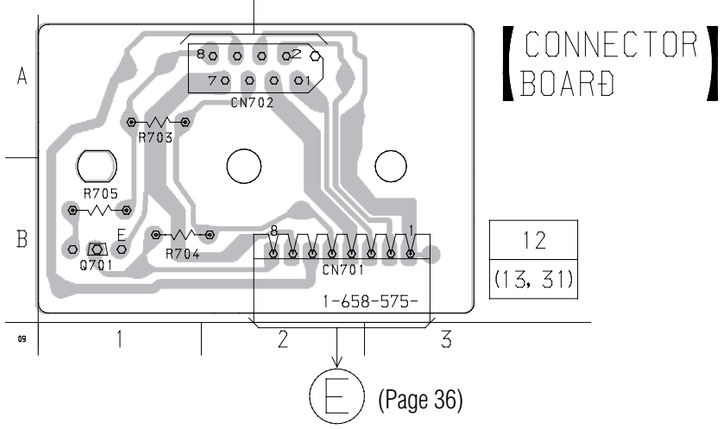


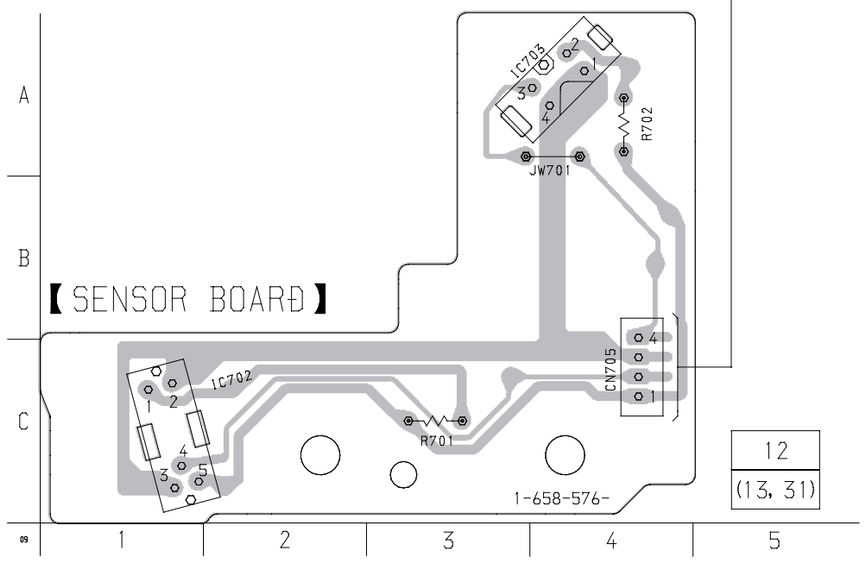
7-22. PRINTED WIRING BOARD – CD MOTOR SECTION –

• See page 18 for Circuit Boards Location.



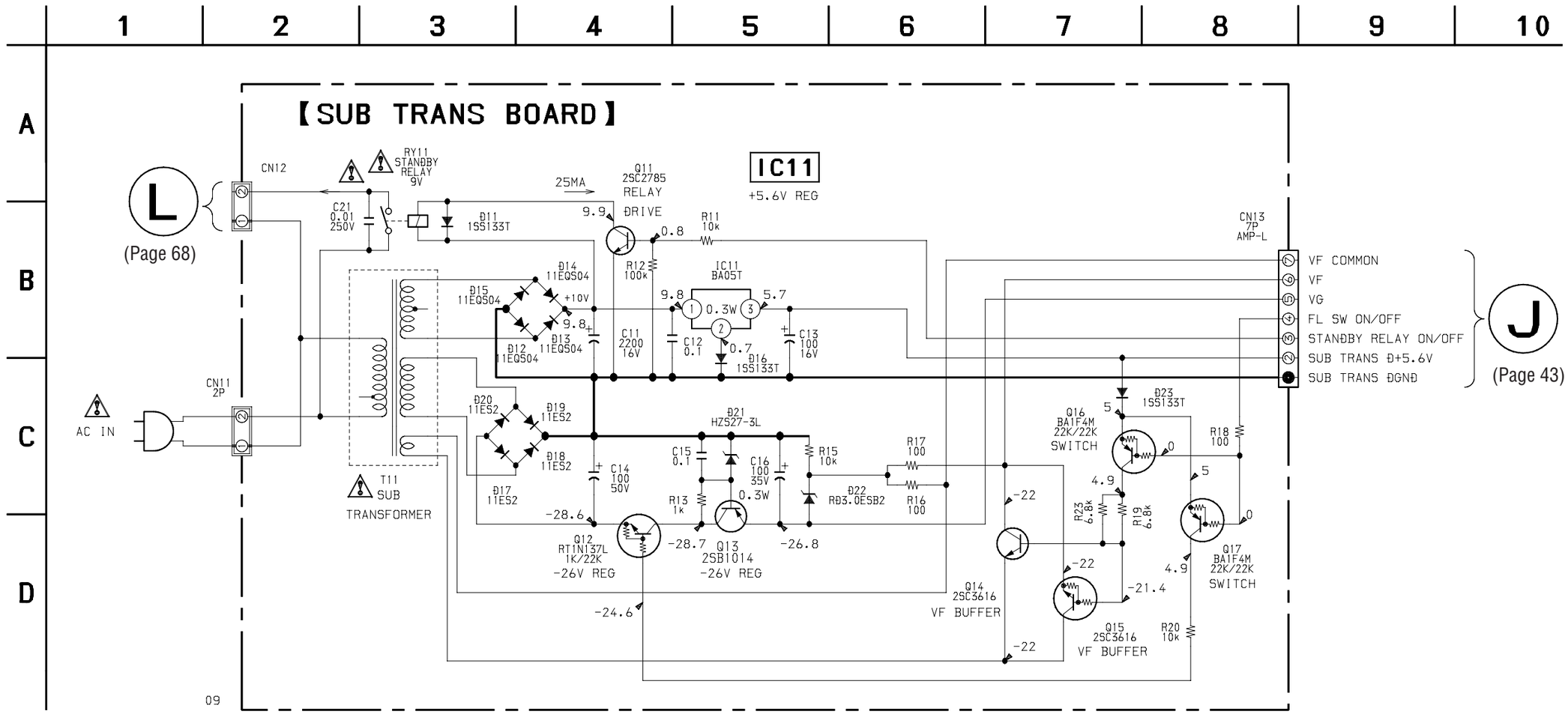






7-23. SCHEMATIC DIAGRAM – TRANS SECTION –

• See page 67 for Printed Wiring Board.



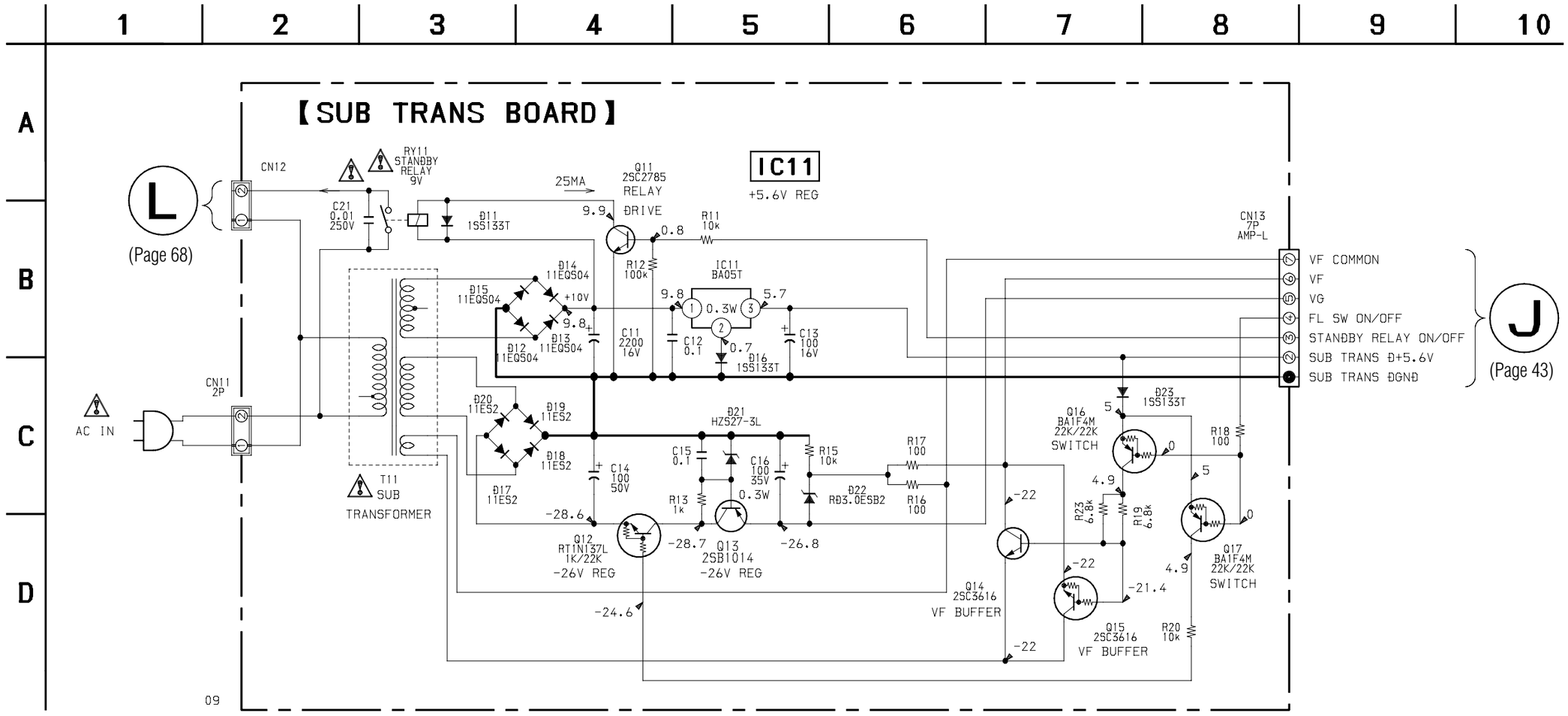
NOTE

• Voltages and waveforms are dc with respect to ground under no-signal conditions.
no mark:FM

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Note: Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

7-24. SCHEMATIC DIAGRAM – SUB TRANS SECTION – (RXD10AV ONLY)

• See page 68 for Printed Wiring Board.



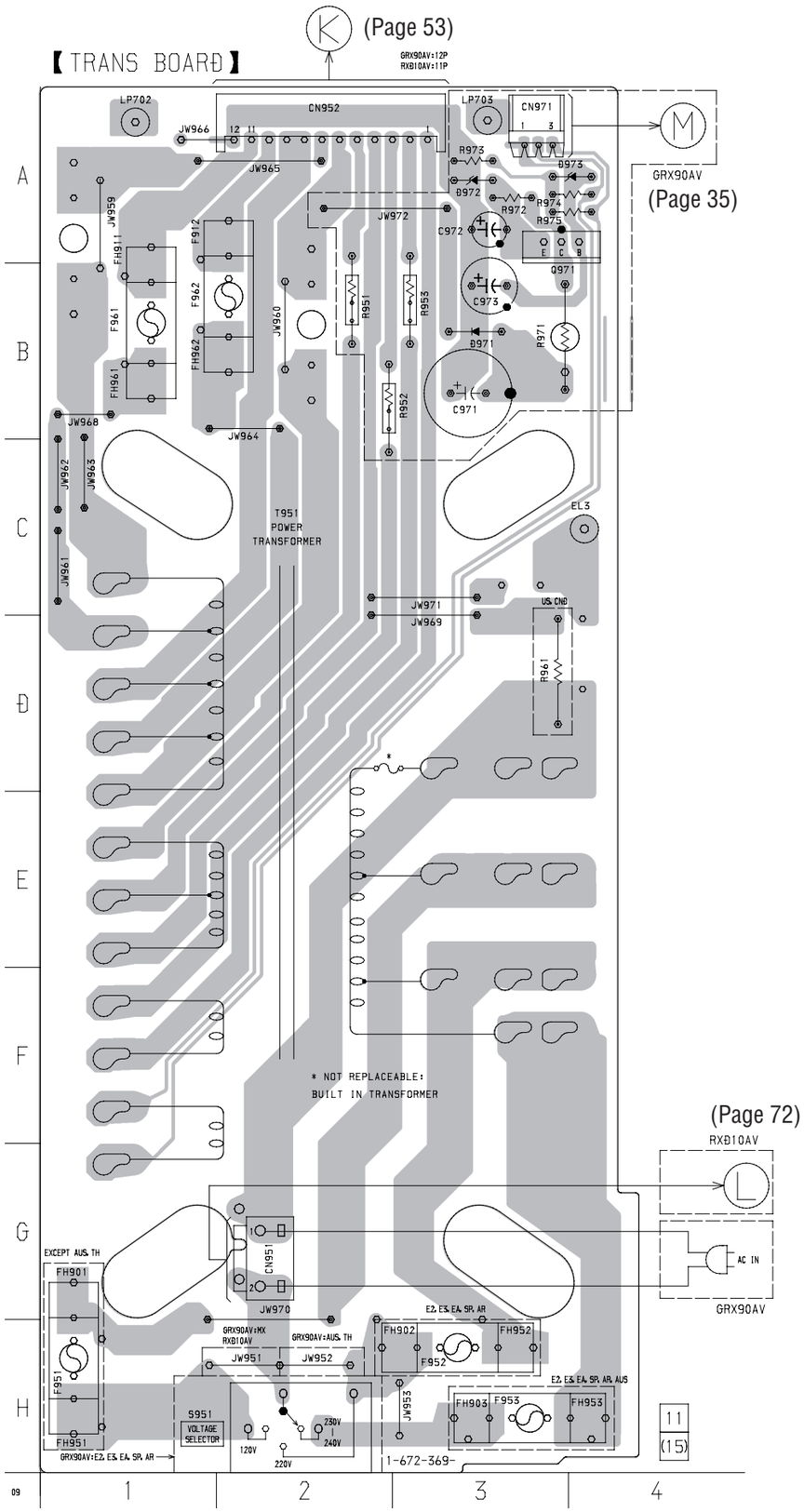
NOTE

• Voltages and waveforms are dc with respect to ground under no-signal conditions.
no mark:FM

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Note: Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

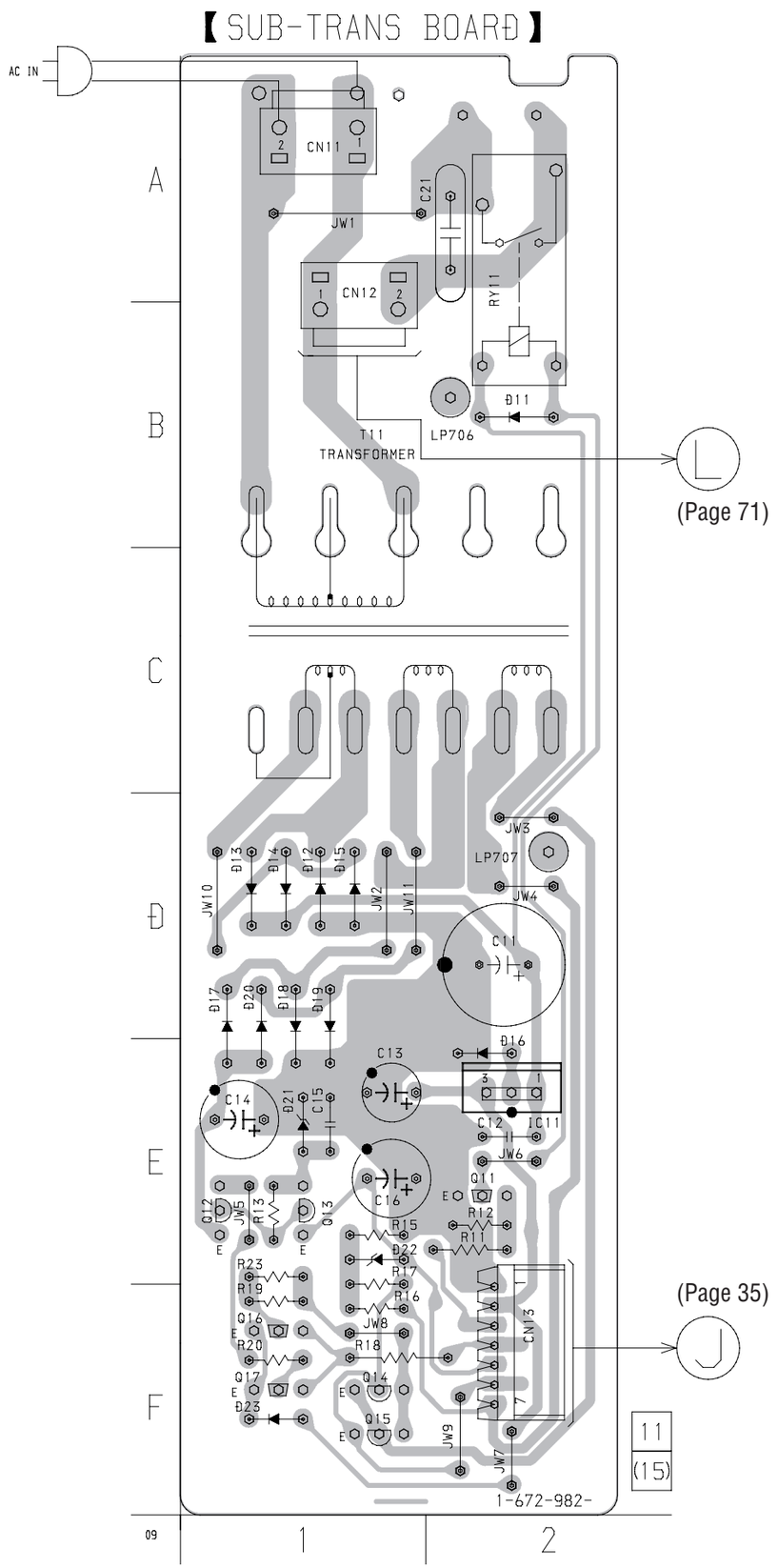
7-25. PRINTED WIRING BOARD – TRANS SECTION –

• See page 18 for Circuit Boards Location.



7-26. PRINTED WIRING BOARD – SUB TRANS SECTION – (RXD10AV ONLY)

• See page 18 for Circuit Boards Location.



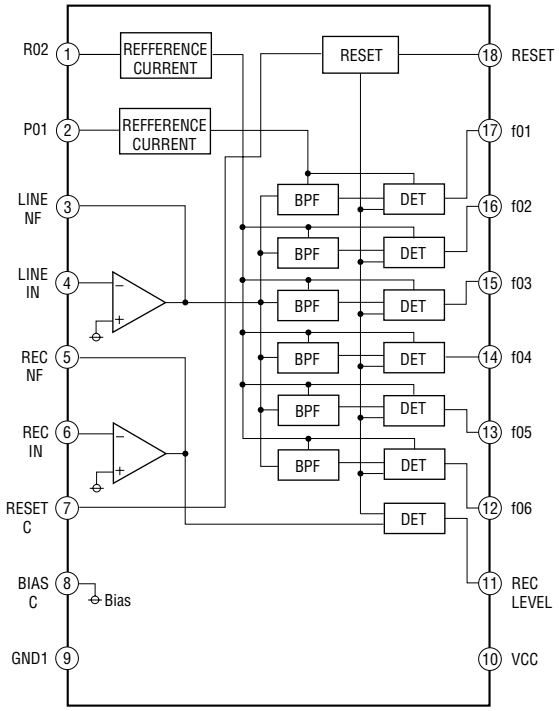
• **Semiconductor Location**

Ref. No.	Location
D11	B-2
D12	D-1
D13	D-1
D14	D-1
D15	D-1
D16	E-2
D17	D-1
D18	D-1
D19	D-1
D20	D-1
D21	E-1
D22	E-1
D23	F-1
IC11	E-2
Q11	E-2
Q12	E-1
Q13	E-1
Q14	F-1
Q15	F-1
Q16	F-1
Q17	F-1

7-27. IC BLOCK DIAGRAMS

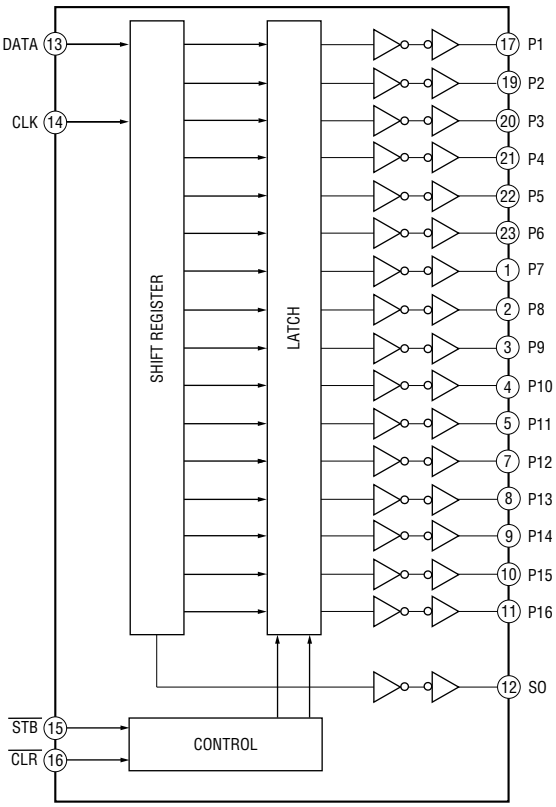
• PANEL (1/2) BOARD

IC603 BA3830F



• PANEL (2/2) BOARD

IC604 NJU3716M



7-28. IC PIN FUNCTIONS

• IC501 MASTER CONTROL (M306622MA-A088FP) (MAIN BOARD)

Pin No.	Pin Name	I/O	Function
1	STK-POWER	O	Power amp ON/OFF signal output
2	POWER	O	Power ON/OFF signal output
3	F-RELAY	O	Front speaker relay control output
4	REAR-RELAY	O	Rear speaker relay control output
5	CD-POWER	O	CD power on signal output
6	LINE-MUTE	O	Line mute ON/OFF selection output
7	DBFB-H/L	O	DBFB H/L select signal output
8, 9	–	–	Not used
10	XC-IN	I	X’tal (32.768MHz)
11	XC-OUT	O	
12	RESET	I	Reset signal input
13	X-OUT	O	X’tal (16MHz)
14	VSS	–	Ground
15	X-IN	I	X’tal (16MHz)
16	VCC	–	Power supply (+5V)
17	NMI	I	Not used (PULL UP EVER+5V)
18	WAKE UP	I	WAKE UP (Fixed at fixed at “L”)
19	SCOR	I	Subcode data request signal output
20	RDS-INT	I	RDS data interrupt input
21	RDS-DATA	I	
22	AC-CUT	I	Back up signal input
23	PL-CLK	O	Clock signal to pro-logic (IC201)
24	PL-DATA	O	Data signal to pro-logic (IC201)
25	PL-LAT	O	Latch signal to pro-logic (IC201)
26	TIMER LED	I	Timer LED ON/OFF
27	PROTECTOR	I	Speaker protect detect
28	–	–	Not used
29	IIC-CLK	O	Clock output for IC601
30	IIC-DATA	O	Data output for IC601
31	–	–	Not used
32	SQ-DATA	I	Subcode Q data clock input
33	SQ-CLK	I	
34	SW-MODE	O	Not used
35	CD-DATA	O	CD data output
36	RY-SW	I	Head phone swich detect
37	CD-CLK	O	CD clock output
38	493-LAT	O	Latch signal output for M62493FP (IC101)
39	ST-BY LED/ CLOCK-OUT	O	Stand by LED signal output (Clock output TEST MODE)
40	L+R/L-R	I	Not used
41	BY-PASS	I	
42	FL-SW	I	FL switch ON/OFF
43	STBY RELAY	I	Stand by relay ON/OFF
44	BASS FREQ	O	FREQ high/low signal for SYNC bass
45, 46	–	–	Not used
47	493-DATA	O	Data output for M62493FP (IC101)
48	493-CLK	O	Clock output for M62493FP (IC101)
49	ST-MUTE	O	Tuned mute signal output

Pin No.	Pin Name	I/O	Function
50	STEREO	I	Stereo detection for tuner
51	TUNED	I	Tuned detection for tuner
52	ST-CE	O	Tuner chip enable output
53	ST-DOUT	O	Tuner data output
54	ST-DIN	I	Tuner data input
55	ST-CLK	O	Tuned clock output
56	SENS	I	BD Condition signal input
57	HOLD	O	Mode hold signal output
58	XLT	O	CD latch signal output
59	XRST	O	CD reset signal output
60	DISC-SENS	I	Slit sensor of disc table input
61	T-SENS	I	CD table detection signal input
62	VCC	–	Power supply (+5V)
63	TBL-L	O	Table motor control output
64	VSS	–	Ground
65	TBL-R	O	Table motor control output
66	LOAD-OUT	O	Loading motor control signal output
67	LOAD-IN	O	
68	ENC 3/UP-SW	I	Disc tray address detect encoder input
69	ENC 2/DISC-LED	I	
70	ENC 1	I	
71	OUT-OPEN	O	Loading out detection signal output
72	B-TRG	O	Trigger motor control output
73	A-TRG	O	
74	CAP-M-CONT2	O	Capstan motor control 2(-) signal output
75	CAP-M-CONT1	O	Capstan motor control 1(-) signal output
76	CAP-M-H/L	O	Capstan motor H/L speed select signal output
77	AMS-IN	I	Connected to ground
78	TC-MUTE	O	TC mute ON/OFF selection output
79	REC/PB/PAS	O	REC/PB/PASS selection output
80	NR-ON/OFF	O	NR ON/OFF signal output
81	REC-MUTE	O	REC mute ON/OFF selection output
82	BIAS	O	Bias ON/OFF selection output
83	EQ-H/N	O	Equalizer H/N select output
84	PB-A/B	O	PB Deck A/Deck B select output
85	ALC	O	ALC ON/OFF output
86	B-PLAY-SW	I	Deck B play detect
87	A-PLAY-SW	I	Deck A play detect
88	A-HALF	I	Deck A cassette detect
89	B-HALF	I	Deck B cassette detect
90	B-SHUT	I	B Deck reel pulse detector
91	A-SHUT	I	A Deck reel pulse detector
92	SOFT-TEST	O	Software test port
93, 94	KEY/CD-ADJ	I	CD adjust point port
95	MODEL IN	I	Version select voltage input
96	AVSS	–	Ground
97	SPEC-IN	I	Version select voltage input
98	VREF	I	Analog reference voltage input
99	AVCC	–	Analog power supply
100	TC-RELAY	O	REC/PB head selection output for IC602

• **IC601 DISPLAY CONTROL (TMP88CS76F-6004) (PANEL BOARD)**

Pin No.	Pin Name	I/O	Function
1	SIRCS	I	Remote commander signal input
2	JOG A	I	Rotary encoder (S601) pulse input
3	L/P SCK	O	LED/PAD clock output
4	LED LA	O	LED latch output
5	L/P DAT	O	LED/PAD data output
6	PAD LA	O	PAD latch output (Not used)
7	L SEL	O	LED select signal
8	JOG B	I	Rotary encoder (S601) pulse input
9	VOL A	I	Rotary encoder (S602) pulse input
10	VOL B	I	
11 to 14	KEY 0 to KEY 3	I	Key input
15	GRA L 2	O	LED gradation signal (left) (Not used)
16	S LOW (F01)	O	Sptctrum analyzer input (Super low flegency) (40Hz)
17	BPF 1 (F02)	O	Sptctrum analyzer input (100Hz)
18	BPF 2	O	Sptctrum analyzer input (400Hz)
19	BPF 3	O	Sptctrum analyzer input (2KHz)
20	BPF 4	O	Sptctrum analyzer input (6KHz)
21	ALL B (L+R)	I	Sptctrum analyzer input (all band)
22	GLADATION R/WAKE UP	O	LED gradation signal (right)/WAKE UP signal
23	VSS I/O	–	Ground
24	VASS	–	Ground
25	VAref	I	Analog reference voltage input
26	VDD I/O	–	Power supply (+5V)
27 to 40	G 18 to G 5	O	FL gride signal output
41	VDD VFT	–	Power supply (+5V)
42 to 45	G 4 to G 1	O	FL gride signal output
46 to 67	S 1 to S 22	O	FL segment signal output
68	VKK	–	Power supply (-30V)
69	VDD for CPU	–	Power supply (+5V)
70	X IN	I	X’tal (12.5MHz)
71	VSS for CPU	–	Ground
72	X OUT	O	X’tal (12.5MHz)
73	RESET	I	Reset signal input from main controller
74	CH for PAD	O	Channel signal output for PAD (Not used)
75	BUSY for PAD	O	Busy signal output for PAD (Not used)
76	TEST	I	Connected ground
77	–	–	Not used (to ground)
78	IIC DATA	O	Data output for IC501
79	IIC CLK	O	Clock output for IC501
80	–	–	Not used (to ground)

SECTION 8
EXPLODED VIEWS

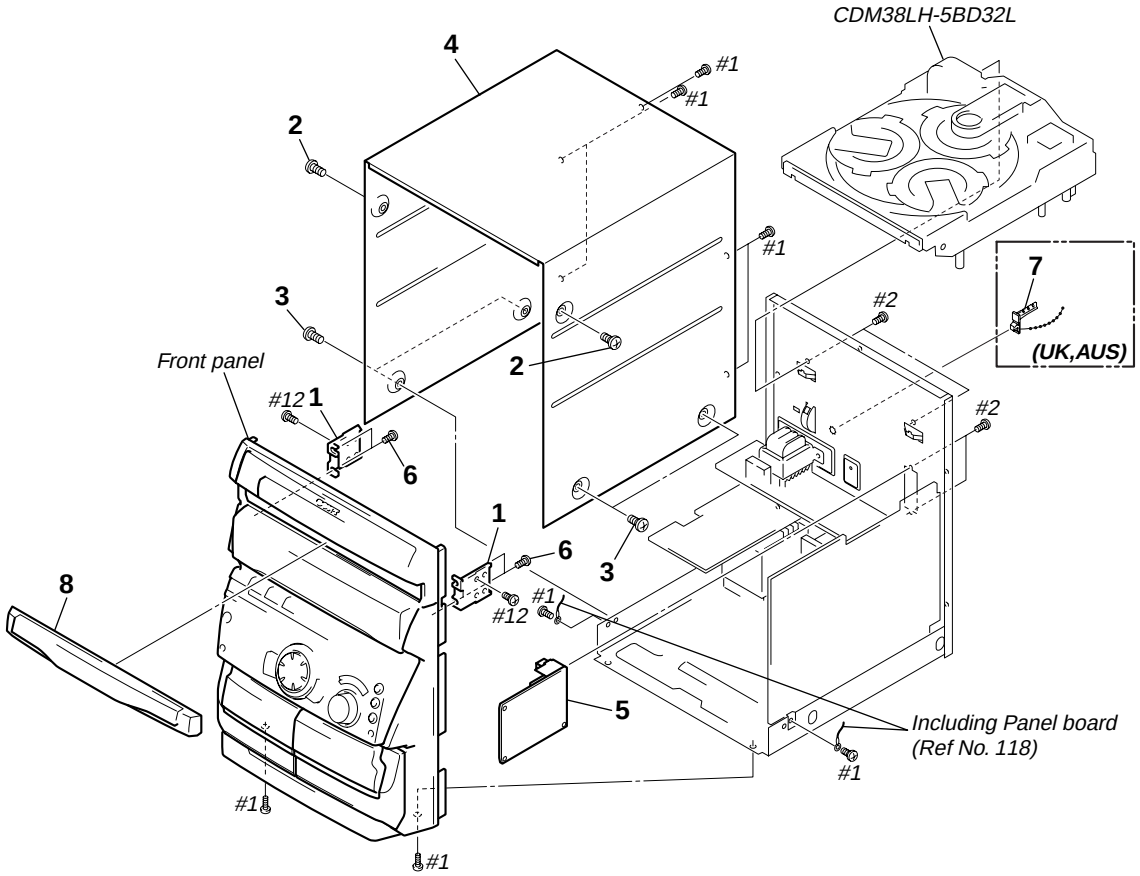
NOTE:
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Color Indication of Appearance Parts Example:
  KNOB, BALANCE (WHITE)
  ↑
  Cabinets color

- Abbreviation
  CND : Canadian model
  G : German model
  EA : Saudi Arabia model
  MX : Mexican model
  E2 : Without SW tuner model
  E3 : With SW tuner model
  SP : Singapore model
  AUS : Australian model
  AR : Argentine model
  TH : Thai model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

8-1. CASE SECTION

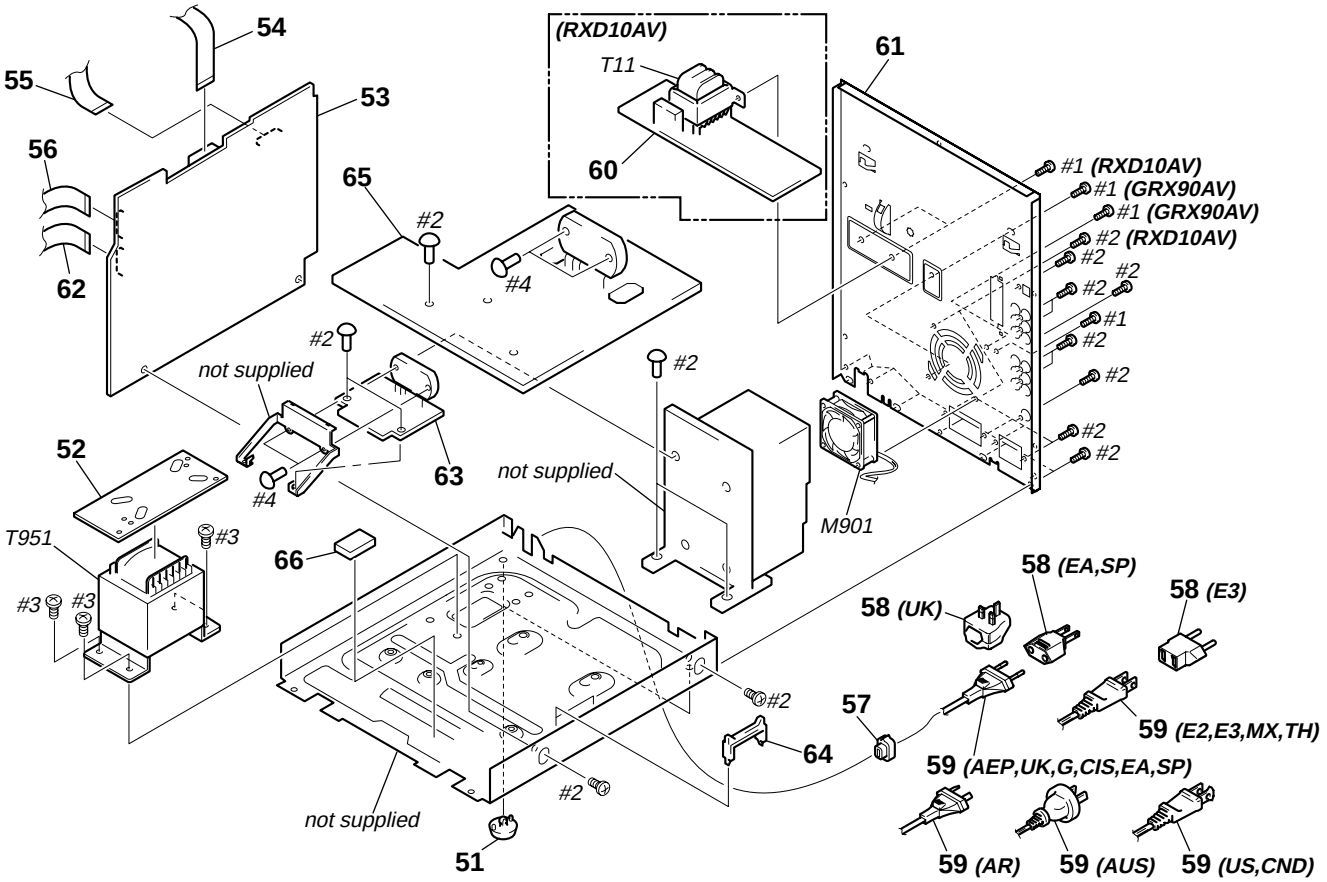


Ref. No.	Part No.	Description	Remark
1	4-996-716-01	HOLDER (CDM)	
2	3-363-099-41	SCREW (CASE 3 TP2)(GRAY)	
2	3-363-099-71	SCREW (CASE 3 TP2)(SILVER)	
3	3-363-099-01	SCREW (CASE 3 TP2)(GRAY)	
3	3-363-099-11	SCREW (CASE 3 TP2)(SILVER)	
4	4-214-443-01	CASE (SILVER)	
4	4-215-752-01	CASE (GRAY)	
5	1-233-545-11	TUNER UNIT (FM/AM)(AR,MX,AUS,TH)	
5	1-233-546-11	TUNER UNIT (FM/MW/SW)(E3,EA,SP)	

Ref. No.	Part No.	Description	Remark
5	1-693-443-11	TUNER UNIT (FM/AM)(AEP,UK,G,CIS)	
5	1-693-445-11	TUNER UNIT (FM/AM)(US,CND)	
5	1-693-453-11	TUNER UNIT (FM/AM)(E2)	
6	4-951-620-01	SCREW (2.6X8), +BVTP	
7	4-956-370-12	BAND, PLUG FIXED (UK,AUS)	
8	X-4950-766-1	PANEL ASSY, LOADING (RXD10AV)	
8	X-4950-955-1	PANEL ASSY, LOADING (GRX90AV)(SILVER)	
8	X-4951-006-1	PANEL ASSY, LOADING (GRX90AV)(GRAY)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

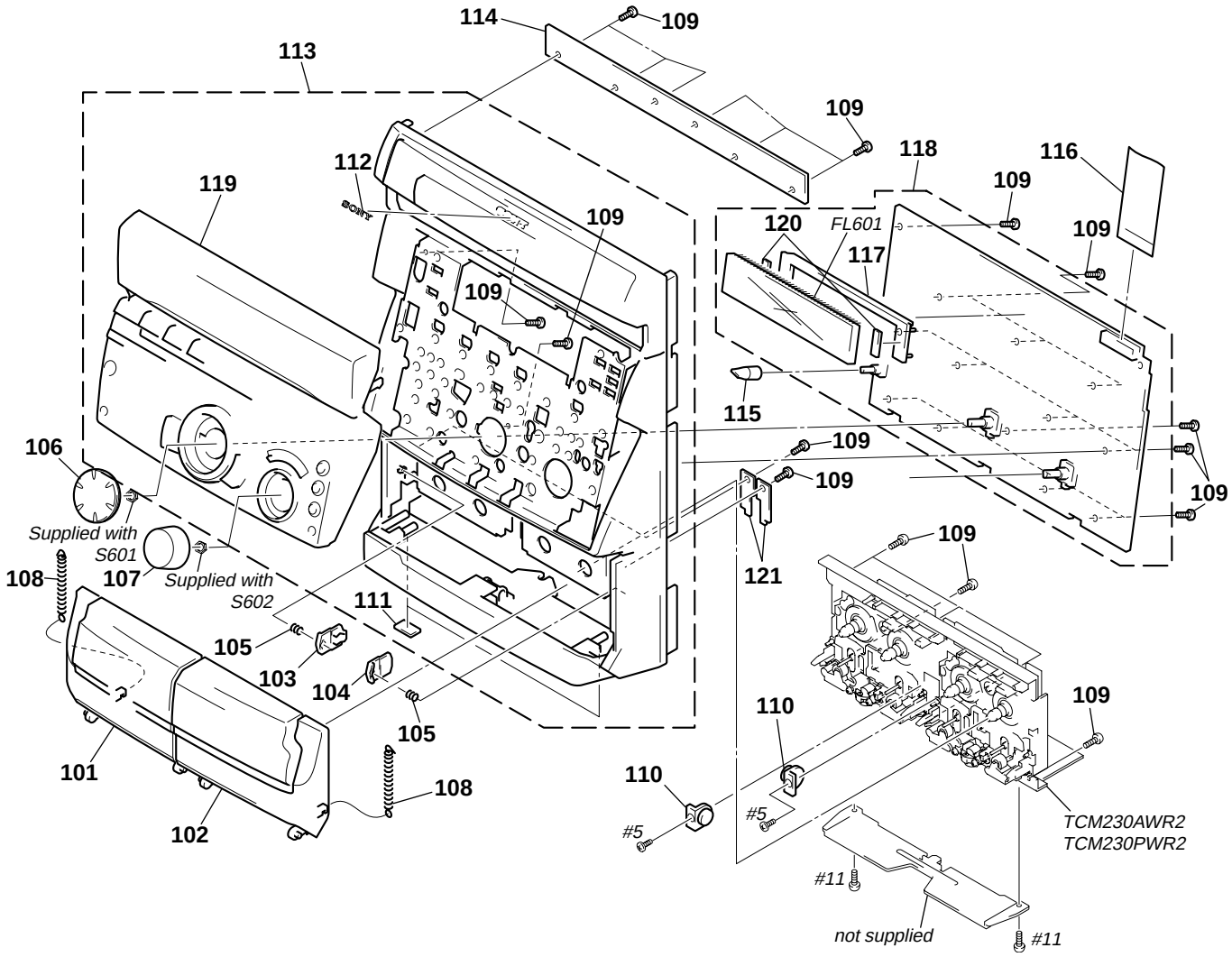
8-2. CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
51	4-965-822-01	FOOT	
* 52	1-672-369-11	TRANS BOARD	
53	A-4417-758-A	MAIN BOARD, COMPLETE (E2,AR,MX,TH)	
53	A-4417-760-A	MAIN BOARD, COMPLETE (US)	
53	A-4417-779-A	MAIN BOARD, COMPLETE (AEP,UK,G,CIS)	
53	A-4417-788-A	MAIN BOARD, COMPLETE (E3,SP)	
53	A-4417-876-A	MAIN BOARD, COMPLETE (CND)	
53	A-4417-886-A	MAIN BOARD, COMPLETE (AUS)	
53	A-4417-906-A	MAIN BOARD, COMPLETE (EA)	
54	1-783-570-11	WIRE (FLAT TYPE)(19 CORE)	
55	1-769-976-11	WIRE (FLAT TYPE)(13 CORE) (US,CND,E2,MX,AUS,TH)	
55	1-773-008-11	WIRE (FLAT TYPE)(15 CORE)(140 mm) (AEP,UK,G,CIS,E3,EA,SP,AR)	
56	1-773-049-11	WIRE (FLAT TYPE)(17 CORE)	
57	3-703-244-00	BUSHING (FBS001), CORD (SP,AR,AUS/RXD10AV)	
57	3-703-571-11	BUSHING (S)(4516), CORD (TH)	
57	4-966-266-01	BUSHING (S)(FBS002), CORD (E2,E3,EA,MX)	
58	1-569-007-11	ADAPTOR, CONVERSION 2P (E3)	
58	1-569-008-21	ADAPTOR, CONVERSION 2P (EA,SP)	
58	1-770-019-11	ADAPTOR, CONVERSION PLUG 3P (UK)	
⚠59	1-575-651-11	CORD, POWER (AEP,UK,G,CIS,EA,SP)	
⚠59	1-575-653-11	CORD, POWER (E2,E3,MX,TH)	
⚠59	1-690-608-11	CORD, POWER (AUS)	
⚠59	1-690-609-21	CORD, POWER (CND)	
⚠59	1-783-531-21	CORD, POWER (US)	
⚠59	1-783-941-21	CORD, POWER (AR)	
60	A-4419-128-A	SUB TRANS BOARD, COMPLETE (CND)	
60	A-4419-198-A	SUB TRANS BOARD, COMPLETE (US)	
60	A-4419-199-A	SUB TRANS BOARD, COMPLETE (AEP,UK,G,CIS)	
61	4-214-455-01	PANEL, BACK (E2,AR)	
61	4-214-455-11	PANEL, BACK (EA)	

Ref. No.	Part No.	Description	Remark
61	4-214-455-21	PANEL, BACK (SP)	
61	4-214-455-51	PANEL, BACK (MX)	
61	4-214-455-61	PANEL, BACK (AUS)	
61	4-214-455-71	PANEL, BACK (AEP,UK,G,CIS) (INDONESIA PRODUCT)	
61	4-214-455-91	PANEL, BACK (US)	
61	4-215-171-01	PANEL, BACK (CND)	
61	4-215-171-11	PANEL, BACK (E3)	
61	4-215-171-21	PANEL, BACK (TH)	
61	4-215-171-31	PANEL, BACK (AEP)(THAI PRODUCT)	
62	1-773-023-11	WIRE (FLAT TYPE)(15 CORE)(310 mm)	
63	A-4417-772-A	3CH AMP BOARD, COMPLETE (US)	
63	A-4417-785-A	3CH AMP BOARD, COMPLETE (AEP,UK,G,CIS)	
63	A-4417-794-A	3CH AMP BOARD, COMPLETE (E2,E3,EA,SP,AR,MX,AUS,TH)	
63	A-4417-880-A	3CH AMP BOARD, COMPLETE (CND)	
* 64	4-988-533-01	PCB HOLDER	
65	A-4417-769-A	FRONT AMP BOARD, COMPLETE (US)	
65	A-4417-783-A	FRONT AMP BOARD, COMPLETE (AEP,UK,G,CIS)	
65	A-4426-201-A	FRONT AMP BOARD, COMPLETE (E2,E3,EA,SP,AR,MX,AUS)	
65	A-4417-878-A	FRONT AMP BOARD, COMPLETE (CND)	
65	A-4417-936-A	FRONT AMP BOARD, COMPLETE (TH)	
66	4-985-642-01	CUSHION	
M901	1-698-792-11	FAN, DC (RXD10AV)	
M901	1-763-072-11	FAN, DC (GRX90AV)	
⚠T11	1-433-590-11	TRANSFORMER, POWER (US,CND)	
⚠T11	1-433-591-11	TRANSFORMER, POWER (AEP,UK,G,CIS)	
⚠T951	1-433-552-11	TRANSFORMER, POWER (US)	
⚠T951	1-433-553-11	TRANSFORMER, POWER (CND)	
⚠T951	1-433-554-11	TRANSFORMER, POWER (AEP,UK,G,CIS)	
⚠T951	1-433-555-11	TRANSFORMER, POWER (E2,E3,EA,SP,AR,MX,AUS,TH)	

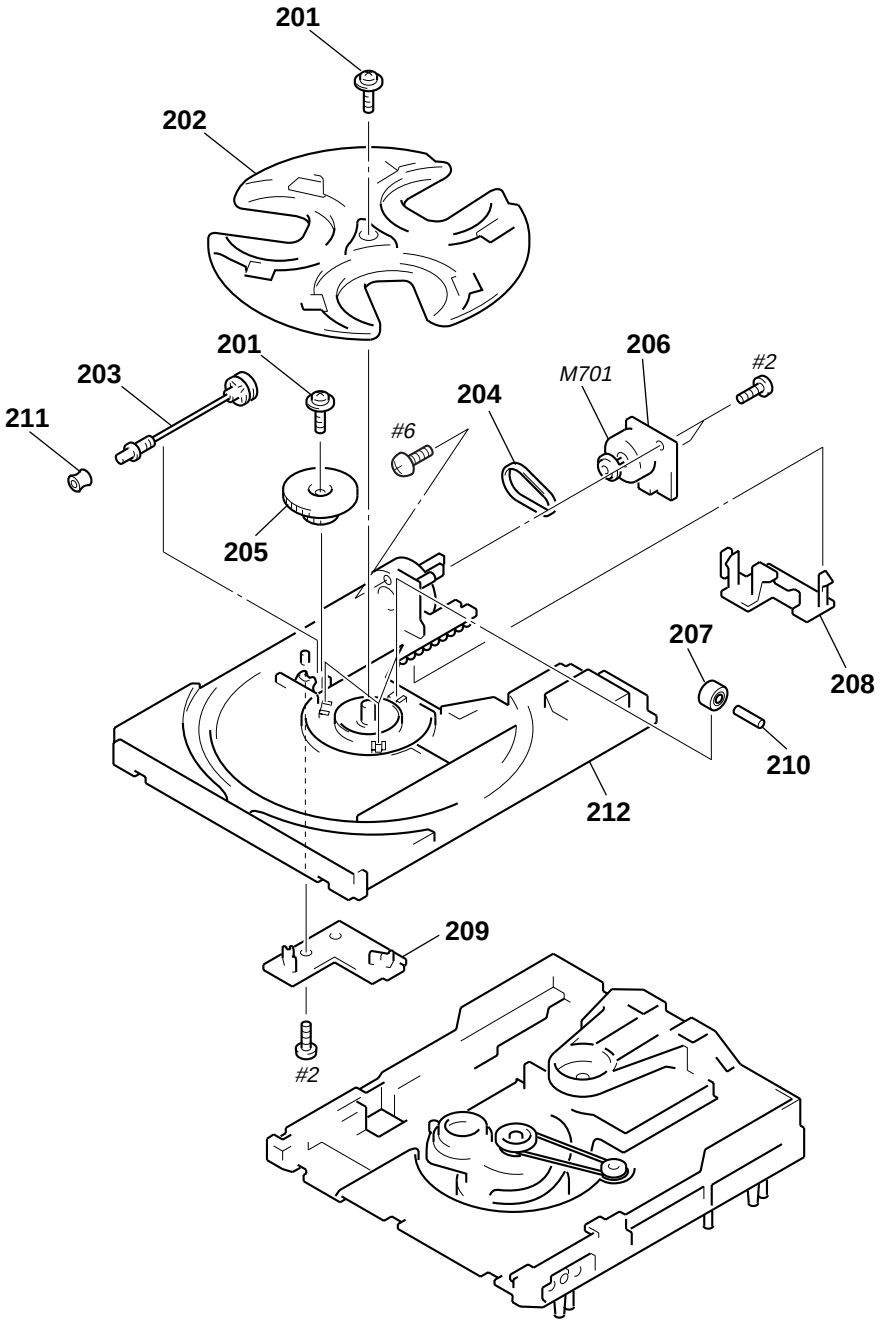
8-3. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
101	X-4951-067-1	HOLDER (L) ASSY, CASSETTE (SILVER)	
101	X-4951-069-1	HOLDER (L) ASSY, CASSETTE (GRAY)	
102	X-4951-068-1	HOLDER (R) ASSY, CASSETTE (SILVER)	
102	X-4951-070-1	HOLDER (R) ASSY, CASSETTE (GRAY)	
103	4-214-760-11	CATCHER (A), PUSH	
104	4-214-761-11	CATCHER (B), PUSH	
105	4-214-775-02	SPRING, PUSH CATCHER RETURN	
106	4-214-383-11	KNOB (JOG)(SILVER)	
106	4-214-383-41	KNOB (JOG)(GRAY)	
107	4-214-384-11	KNOB (VOL)(SILVER)	
107	4-214-384-41	KNOB (VOL)(GRAY)	
108	4-220-008-01	SPRING, EXTENSION	
109	4-951-620-01	SCREW (2.6X8), +BVTP	
110	4-210-045-02	DAMPER	
111	4-988-663-01	FOOT (FELT)	
112	4-962-708-81	EMBLEM (4-A), SONY	
113	X-4951-040-1	PANEL ASSY, FRONT (E3,EA)(GRAY)	

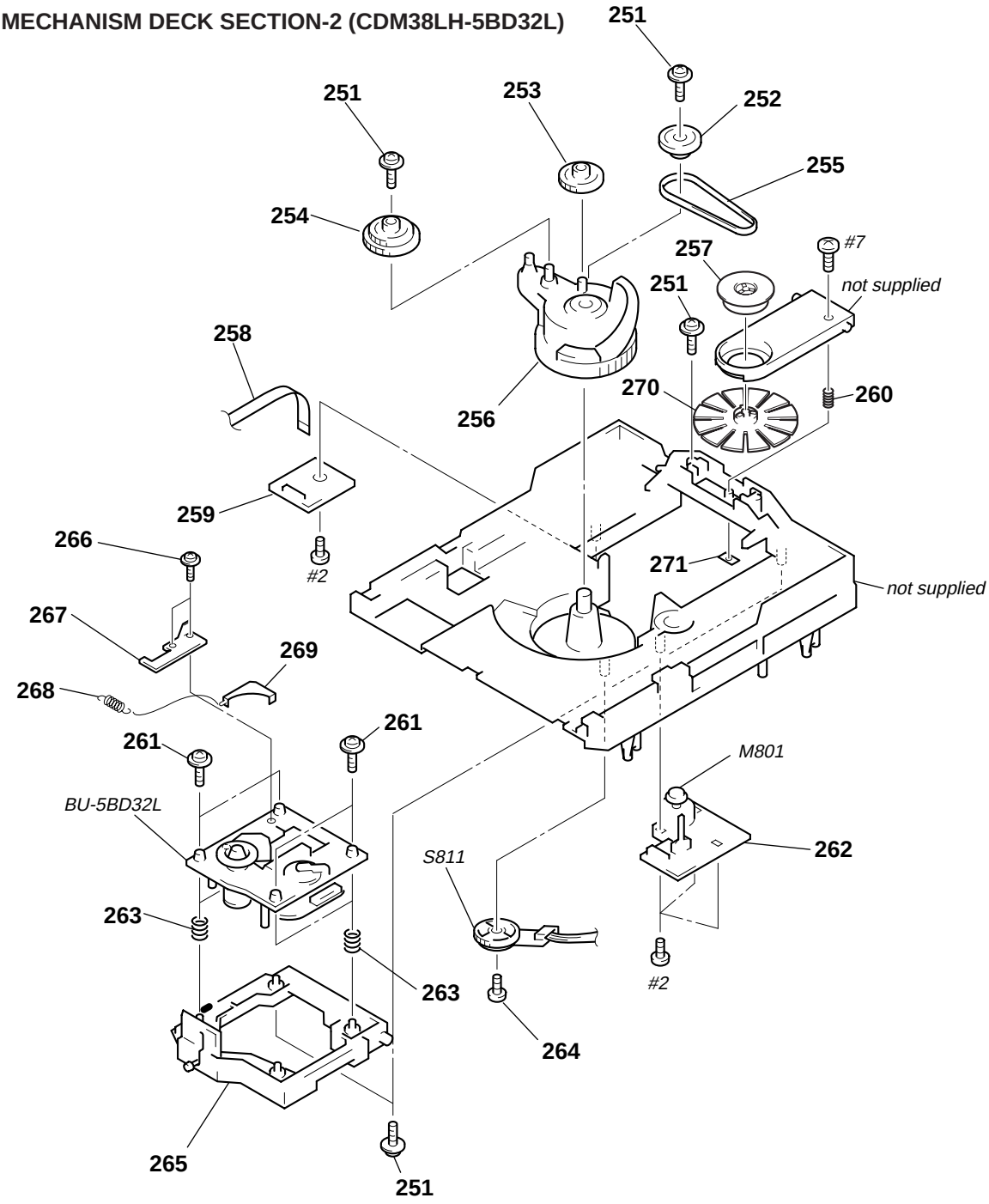
Ref. No.	Part No.	Description	Remark
113	X-4951-041-1	PANEL ASSY, FRONT (AEP,UK,G,CIS)	
113	X-4951-042-1	PANEL ASSY, FRONT (US,CND)	
113	X-4951-136-1	PANEL ASSY, FRONT (E2,SP,AR,MX,AUS,TH)(SILVER)	
114	A-4417-826-A	CD SW BOARD, COMPLETE	
115	4-214-385-11	KNOB (MIC)(SILVER)	
115	4-214-385-41	KNOB (MIC)(GRAY)	
116	1-773-189-11	WIRE (FLAT TYPE)(23 CORE)	
117	4-214-439-01	HOLDER, FL TUBE	
118	A-4417-775-A	PANEL BOARD, COMPLETE	
119	X-4951-440-1	PANEL ASSY, SUB (E3,EA)(GRAY)	
119	X-4951-441-1	PANEL ASSY, SUB (AEP,UK,G,CIS)	
119	X-4951-442-1	PANEL ASSY, SUB (US,CND)	
119	X-4951-443-1	PANEL ASSY, SUB (E2,SP,MX,AR,AS)(SILVER)	
* 120	4-949-935-81	CUSHION (FL)	
121	1-674-232-11	PUSH CATCH STOP BOARD	
FL601	1-517-831-11	INDICATOR TUBE, FLUORESCENT	

8-4. CD MECHANISM DECK SECTION-1 (CDM38LH-5BD32L)



Ref. No.	Part No.	Description	Remark
201	4-981-789-01	BRACKET, YOKE	
202	4-977-945-01	TRAY (TURN)	
203	X-4946-665-1	SHAFT ASSY, WORM	
204	4-977-943-01	BELT (TURN) (1.2)	
205	4-977-956-01	WHEEL, WORM	
* 206	1-658-577-11	MOTOR (TURN) BOARD	
207	4-988-162-01	ROLLER	
208	4-977-941-01	BEARING (WORM)	
* 209	1-658-576-11	SENSOR BOARD	
210	4-934-376-01	SHAFT (ROLLER)	
211	4-981-187-01	COLLAR (WORM)	
212	4-977-944-01	TRAY (SLIDE)	
M701	A-4672-004-A	MOTOR ASSY (TURN)	

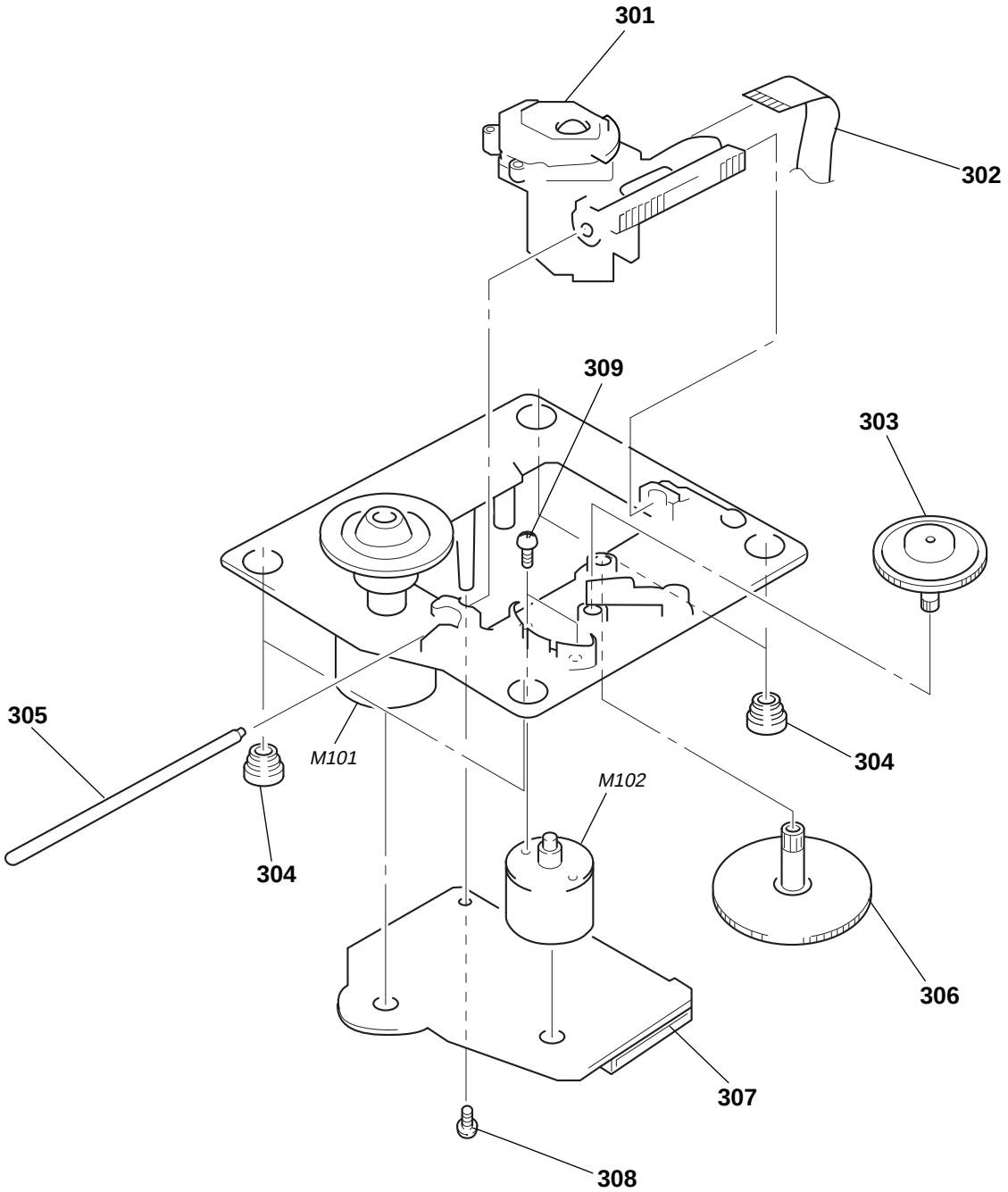
8-5. CD MECHANISM DECK SECTION-2 (CDM38LH-5BD32L)



Ref. No.	Part No.	Description	Remark
251	4-917-583-71	BRACKET, YOKE	
252	4-977-954-01	PULLEY (SL)	
253	4-977-953-01	GEAR (SL-A)	
254	4-977-955-01	GEAR (SL-B)	
255	4-977-942-01	BELT (SL) (1.4)	
256	X-4946-667-1	CAM ASSY, BU	
257	1-452-925-21	MAGNET ASSY	
258	1-776-042-11	WIRE (FLAT TYPE) (8 CORE)	
* 259	1-658-575-11	CONNECTOR BOARD	
260	4-900-743-01	SPRING, COMPRESSION	
261	4-985-672-01	SCREW (+PTPWHM2.6), FLOATING	
* 262	1-658-578-11	MOTOR (SLIDE) BOARD	

Ref. No.	Part No.	Description	Remark
263	4-982-447-01	SPRING (BU), COMPRESSION	
264	4-951-620-41	SCREW (2.6), +BVTP	
265	X-4949-570-1	HOLDER (BU) ASSY	
266	4-989-494-01	SCREW (SLIDER), STEP	
267	4-989-492-11	SLIDER (38)	
268	4-989-819-02	SPRING, TENSION	
269	4-989-491-01	COVER, LENS	
270	4-993-142-21	PULLEY (L), PRESS	
* 271	4-900-718-01	BRACKET (ADJUSTMENT)	
S811	1-473-335-11	ENCODER, ROTARY	
M801	A-4672-004-A	MOTOR ASSY (SLIDE)	

8-6. BASE UNIT SECTION (BU-5BD32L)



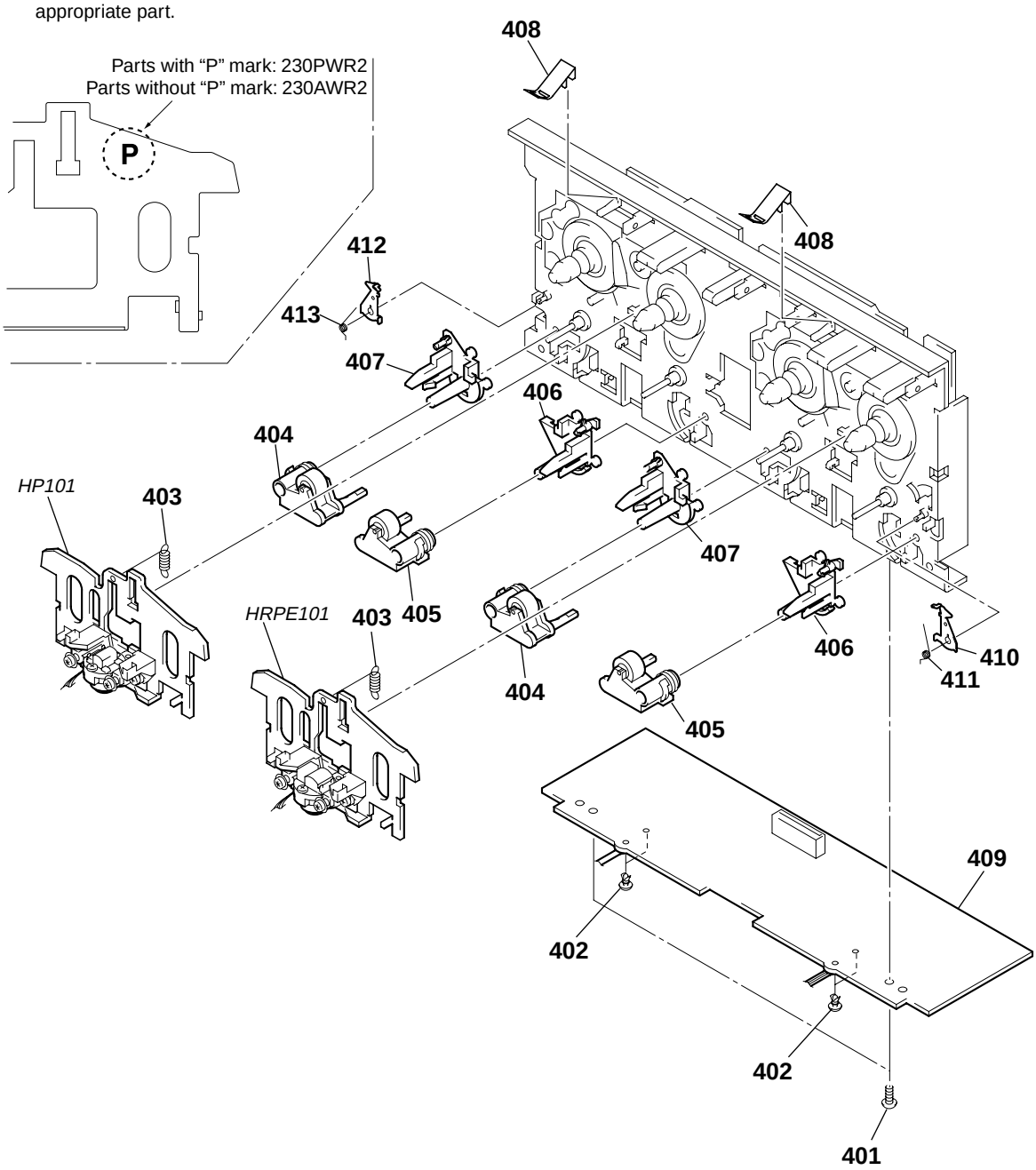
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
⚠301	8-820-020-02	OPTICAL PICK-UP KSS-213D/Q-NP	
302	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)	
303	4-917-567-01	GEAR (M)	
304	4-951-940-01	INSULATOR (BU)	
305	4-917-565-01	SHAFT, SLED	

Ref. No.	Part No.	Description	Remark
306	4-917-564-01	GEAR (P), FLATNESS	
* 307	A-4724-486-A	BD BOARD, COMPLETE	
308	4-951-620-01	SCREW (2.6X8), +BVTP	
309	3-713-786-51	SCREW +P 2X3	
M101	X-4917-523-3	MOTOR ASSY (SPINDLE)	
M102	X-4917-504-1	MOTOR ASSY (SLED)	

8-7. TC MECHANISM SECTION-1 (TCM230AWR2/230PWR2)

*NOTE: Two types of parts which are not interchangeable are available for the Head deck (A) ASSY and Head deck (B) ASSY. When replacing the parts, refer to the following figure, and use the appropriate part.

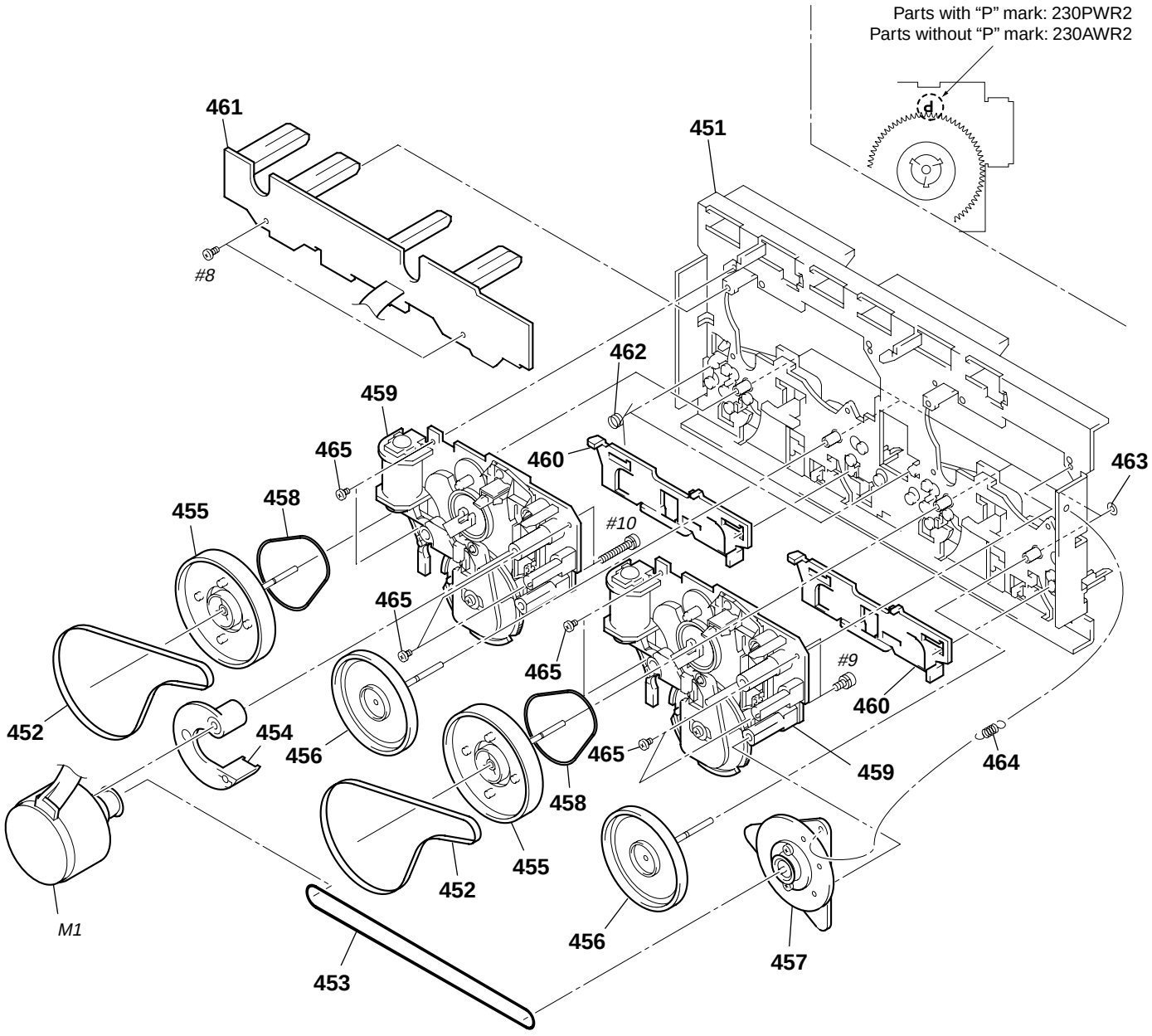


Ref. No.	Part No.	Description	Remark
401	3-376-464-11	SCREW(+PTT 2.6X6),GROUND POINT	
402	3-911-116-21	RIVET, PUSH	
403	3-016-574-11	SPRING (HEAD), TENSION	
404	X-3374-156-4	PINCH LEVER (REV) ASSY	
405	X-3374-155-4	PINCH LEVER (FWD) ASSY	
406	3-016-564-01	BASE (PINCH LEVER FWD)	
407	3-016-565-01	BASE (PINCH LEVER REV)	
408	3-026-892-01	SPRING (CASSETTE), LEAF	
* 409	A-2007-731-A	AUDIO BOARD, COMPLETE	

Ref. No.	Part No.	Description	Remark
410	3-016-573-01	LEVER (EJECT PREVENTION R)	
411	3-032-810-02	SPRING (R), TORSION	
412	3-016-572-01	LEVER (EJECT PREVENTION L)	
413	3-032-809-02	SPRING (L), TORSION	
HP101	A-2056-681-A	DECK (A) ASSY, HEAD (230AWR2)(*NOTE)	
HP101	A-2056-683-A	DECK (A) ASSY, HEAD (230PWR2)(*NOTE)	
HRPE101	A-2056-682-A	DECK (B) ASSY, HEAD (230AWR2)(*NOTE)	
HRPE101	A-2056-684-A	DECK (B) ASSY, HEAD (230PWR2)(*NOTE)	

8-8. TC MECHANISM SECTION-2 (TCM230AWR2/230PWR2)

*NOTE: Two types of parts which are not interchangeable are available for the mechanical block assembly. When replacing the parts, refer to the following figure, and use the appropriate part.



Ref. No.	Part No.	Description	Remark
* 451	X-3374-214-3	CHASSIS ASSY, MAIN	
452	3-016-570-01	BELT (CAPSTAN)	
453	3-016-569-01	BELT (TENSION)	
454	3-017-360-01	BRACKET (MOTOR)	
455	X-3376-497-1	FLYWHEEL (FWD) ASSY	
456	X-3374-235-1	FLYWHEEL (REV) ASSY	
457	X-3374-238-1	PULLEY ASSY, TENSION	
458	3-024-405-01	BELT (FR2)	
459	A-2004-629-A	MECHANICAL BLOCK ASSY (230AWR2)(*NOTE)	

Ref. No.	Part No.	Description	Remark
459	A-2004-629-B	MECHANICAL BLOCK ASSY (230PWR2)(*NOTE)	
460	3-016-566-01	SLIDER, REVERSE	
* 461	A-2007-732-A	LEAF SW BOARD, COMPLETE	
462	3-016-575-11	SPRING, TORSION	
463	3-019-208-01	WASHER, STOPPER	
464	3-027-453-01	SPRING (GROUND), TENSION	
465	3-030-823-01	SCREW (+BVTT) (2X3.5)	
M1	A-2004-628-A	MOTOR ASSY, CAPSTAN	

SECTION 9
ELECTRICAL PARTS LIST

3CH AMP

Note:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- SEMICONDUCTORS
  In each case, u: µ , for example:
  uA...: µ A..., uPA...: µ PA..., uPB...: µ PB..., uPC...: µ PC..., uPD...: µ PD...
- CAPACITORS
  uF : µ F
- COILS
  uH : µ H
- Abbreviation
  CND : Canadian model
  G : German model
  EA : Saudi Arabia model
  MX : Mexican model
  E2 : Without SW tuner model
  E3 : With SW tuner model
  SP : Singapore model
  AUS : Australian model
  AR : Argentine model
  TH : Thai model

Ref. No.	Part No.	Description				Remark
	A-4417-772-A	3CH AMP BOARD, COMPLETE (US)				
		**********				
	A-4417-785-A	3CH AMP BOARD, COMPLETE (AEP,UK,G,CIS)				
		**********				
	A-4417-794-A	3CH AMP BOARD, COMPLETE				
		**********				
						(E2,E3,EA,SP,AR,MX,AUS,TH)
	A-4417-880-A	3CH AMP BOARD, COMPLETE (CND)				
		**********				
		< CAPACITOR >				
C1001	1-126-963-11	ELECT	4.7uF	20%	50V	
						(GRX90AV/RXD10AV:AEP,UK,G,CIS)
C1001	1-128-582-11	ELECT	10uF	20%	100V	
						(RXD10AV:US,CND)
C1002	1-162-286-21	CERAMIC	220PF	10%	50V	
C1003	1-162-282-31	CERAMIC	100PF	10%	50V	
C1004	1-104-664-11	ELECT	47uF	20%	10V	
						(GRX90AV/RXD10AV:AEP,UK,G,CIS)
C1004	1-126-967-11	ELECT	47uF	20%	50V	
						(RXD10AV:US,CND)
C1005	1-128-560-11	ELECT	22uF	20%	100V	
C1006	1-136-165-00	FILM	0.1uF	5%	50V	
C1007	1-136-495-11	FILM	0.068uF	5%	50V	
C1008	1-136-495-11	FILM	0.068uF	5%	50V	
C1022	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C1023	1-162-306-11	CERAMIC	0.01uF	20%	16V	
						(RXD10AV:AEP,UK,G,CIS)
C1051	1-126-963-11	ELECT	4.7uF	20%	50V	
						(GRX90AV/RXD10AV:AEP,UK,G,CIS)
C1051	1-128-582-11	ELECT	10uF	20%	100V	
						(RXD10AV:US,CND)
C1052	1-162-286-21	CERAMIC	220PF	10%	50V	
C1053	1-162-282-31	CERAMIC	100PF	10%	50V	
C1054	1-104-664-11	ELECT	47uF	20%	10V	
						(GRX90AV/RXD10AV:AEP,UK,G,CIS)
C1054	1-126-967-11	ELECT	47uF	20%	50V	
						(RXD10AV:US,CND)
C1055	1-128-560-11	ELECT	22uF	20%	100V	
C1056	1-136-165-00	FILM	0.1uF	5%	50V	
C1057	1-136-495-11	FILM	0.068uF	5%	50V	
C1058	1-136-495-11	FILM	0.068uF	5%	50V	
C1081	1-126-963-11	ELECT	4.7uF	20%	50V	
						(GRX90AV/RXD10AV:AEP,UK,G,CIS)
C1081	1-128-582-11	ELECT	10uF	20%	100V	
						(RXD10AV:US,CND)
C1082	1-162-286-21	CERAMIC	220PF	10%	50V	
C1083	1-162-282-31	CERAMIC	100PF	10%	50V	
C1084	1-104-664-11	ELECT	47uF	20%	10V	
						(GRX90AV/RXD10AV:AEP,UK,G,CIS)
C1084	1-126-967-11	ELECT	47uF	20%	50V	
						(RXD10AV:US,CND)
C1085	1-136-495-11	FILM	0.068uF	5%	50V	
C1086	1-136-495-11	FILM	0.068uF	5%	50V	
		< CONNECTOR >				
CN1001	1-691-767-11	PLUG (MICRO CONNECTOR) 5P				
CN1002	1-691-772-11	PLUG (MICRO CONNECTOR) 10P				
		< DIODE >				
D1001	8-719-991-33	DIODE 1SS133T-77				
D1021	8-719-991-33	DIODE 1SS133T-77				
D1051	8-719-991-33	DIODE 1SS133T-77				
D1081	8-719-991-33	DIODE 1SS133T-77				
		< GROUND PLATE >				
* EP1001	1-537-738-21	TERMINAL, EARTH (RXD10AV:AEP,UK,G,CIS)				
		< IC >				
IC1001	8-749-015-54	IC STK408-040E				
		< TRANSISTOR >				
Q1001	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA				
Q1021	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q1022	8-729-119-78	TRANSISTOR 2SC403SP-51				
Q1023	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA				
Q1024	8-729-119-78	TRANSISTOR 2SC403SP-51				
Q1051	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA				
Q1081	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA				
		< RESISTOR >				
R1001	1-249-417-11	CARBON	1K	5%	1/4W	F
R1002	1-249-438-11	CARBON	56K	5%	1/4W	
R1003	1-247-819-91	CARBON	330	5%	1/4W	
						(RXD10AV:US)
R1003	1-247-821-91	CARBON	390	5%	1/4W	F
						(GRX90AV)
R1003	1-247-823-91	CARBON	470	5%	1/4W	
						(RXD10AV:CND,AEP,UK,G,AED,CIS)
R1004	1-249-438-11	CARBON	56K	5%	1/4W	
⚠R1005	1-212-881-11	FUSIBLE	100	5%	1/4W	F

3CH AMP | AUDIO

Ref. No.	Part No.	Description			Remark
⚠R1006	1-217-151-00	METAL	0.22	10%	2W
R1007	1-249-417-11	CARBON	1K	5%	1/4W F
R1008	1-249-431-11	CARBON	15K	5%	1/4W
R1009	1-249-441-11	CARBON	100K	5%	1/4W
R1010	1-260-076-11	CARBON	10	5%	1/2W
R1020	1-247-863-91	CARBON	22K	5%	1/4W
R1021	1-249-435-11	CARBON	33K	5%	1/4W
R1022	1-247-863-91	CARBON	22K	5%	1/4W
R1023	1-249-439-11	CARBON	68K	5%	1/4W
R1024	1-249-421-11	CARBON	2.2K	5%	1/4W F
R1025	1-247-863-91	CARBON	22K	5%	1/4W
R1026	1-249-429-11	CARBON	10K	5%	1/4W
R1027	1-249-441-11	CARBON	100K	5%	1/4W F
⚠R1028	1-202-972-61	FUSIBLE	1	5%	1/4W F
R1029	1-249-441-11	CARBON	100K	5%	1/4W
R1030	1-249-441-11	CARBON	100K	5%	1/4W
R1031	1-249-437-11	CARBON	47K	5%	1/4W
R1051	1-249-417-11	CARBON	1K	5%	1/4W F
R1052	1-249-438-11	CARBON	56K	5%	1/4W
R1053	1-247-819-91	CARBON	330	5%	1/4W (RXD10AV:US)
R1053	1-247-821-91	CARBON	390	5%	1/4W F (GRX90AV)
R1053	1-247-823-91	CARBON	470	5%	1/4W (RXD10AV:CND,AEP,UK,G,AED,CIS)
R1054	1-249-438-11	CARBON	56K	5%	1/4W
⚠R1055	1-212-881-11	FUSIBLE	100	5%	1/4W F
⚠R1056	1-217-151-00	METAL	0.22	10%	2W
R1057	1-249-417-11	CARBON	1K	5%	1/4W F
R1058	1-249-431-11	CARBON	15K	5%	1/4W
R1059	1-249-441-11	CARBON	100K	5%	1/4W
R1060	1-260-076-11	CARBON	10	5%	1/2W
R1081	1-249-417-11	CARBON	1K	5%	1/4W F
R1082	1-249-438-11	CARBON	56K	5%	1/4W
R1083	1-247-822-91	CARBON	430	5%	1/4W (RXD10AV:US)
R1083	1-247-824-91	CARBON	510	5%	1/4W F (GRX90AV)
R1083	1-247-826-91	CARBON	620	5%	1/4W (RXD10AV:CND,AEP,UK,G,AED,CIS)
R1084	1-249-438-11	CARBON	56K	5%	1/4W
⚠R1085	1-217-151-00	METAL	0.22	10%	2W
R1086	1-249-417-11	CARBON	1K	5%	1/4W F
R1087	1-249-431-11	CARBON	15K	5%	1/4W
R1088	1-249-441-11	CARBON	100K	5%	1/4W
R1089	1-260-076-11	CARBON	10	5%	1/2W
		< THERMISTOR >			
TH1021	1-807-796-11	THERMISTOR			

****

*	A-2007-731-A	AUDIO BOARD, COMPLETE				
		**********				
		< CAPACITOR >				
C301	1-162-289-31	CERAMIC	390PF	10%	50V	
C302	1-126-968-11	ELECT	100uF	20%	6.3V	
C303	1-162-282-31	CERAMIC	100PF	10%	50V	
C304	1-130-483-00	MYLAR	0.01uF	5%	50V	
C305	1-107-715-11	ELECT	22uF	20%	16V	
C311	1-162-289-31	CERAMIC	390PF	10%	50V	
C313	1-162-282-31	CERAMIC	100PF	10%	50V	
C314	1-130-487-00	MYLAR	0.022uF	5%	50V	
C315	1-126-233-11	ELECT	22uF	20%	50V	
C331	1-137-427-11	FILM	120PF	5%	50V	
C332	1-162-288-31	CERAMIC	330PF	10%	50V	
C333	1-162-209-31	CERAMIC	27PF	5%	50V	
C401	1-162-289-31	CERAMIC	390PF	10%	50V	
C402	1-126-968-11	ELECT	100uF	20%	6.3V	
C403	1-162-282-31	CERAMIC	100PF	10%	50V	
C404	1-130-483-00	MYLAR	0.01uF	5%	50V	
C405	1-107-715-11	ELECT	22uF	20%	16V	
C411	1-162-289-31	CERAMIC	390PF	10%	50V	
C413	1-162-282-31	CERAMIC	100PF	10%	50V	
C414	1-130-487-00	MYLAR	0.022uF	5%	50V	
C415	1-126-233-11	ELECT	22uF	20%	50V	
C431	1-137-427-11	FILM	120PF	5%	50V	
C432	1-162-288-31	CERAMIC	330PF	10%	50V	
C433	1-162-209-31	CERAMIC	27PF	5%	50V	
C601	1-104-396-11	ELECT	10uF	20%	16V	
C602	1-104-396-11	ELECT	10uF	20%	16V	
C611	1-104-396-11	ELECT	10uF	20%	16V	
C612	1-104-396-11	ELECT	10uF	20%	16V	
C621	1-137-150-11	FILM	0.01uF	5%	100V	
C622	1-126-961-11	ELECT	2.2uF	20%	50V	
C623	1-136-155-00	FILM	0.015uF	5%	50V	
C624	1-130-481-00	MYLAR	0.0068uF	5%	50V	
C625	1-130-481-00	MYLAR	0.0068uF	5%	50V	
C627	1-124-903-11	ELECT	1uF	20%	50V	
C628	1-136-153-00	FILM	0.01uF	5%	50V	
C642	1-104-664-11	ELECT	47uF	20%	16V	
		< CONNECTOR >				
CN601	1-695-338-11	PIN, CONNECTOR (PC BOARD) 15P				
		< IC >				
IC601	8-759-111-44	IC UPC4570C-1				
IC602	8-759-143-54	IC UPC1330HA				
IC611	8-759-111-44	IC UPC4570C-1				
		< COIL >				
L331	1-410-780-11	INDUCTOR	27mH			
L431	1-410-780-11	INDUCTOR	27mH			
L601	1-414-193-41	INDUCTOR	220uH			
L602	1-414-193-41	INDUCTOR	220uH			
		< TRANSISTOR >				
Q621	8-729-142-46	TRANSISTOR 2SC2001-LK				
Q622	8-729-142-46	TRANSISTOR 2SC2001-LK				
Q623	8-729-801-93	TRANSISTOR 2SD1387				
		< RESISTOR >				
R301	1-247-881-00	CARBON	120K	5%	1/4W	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remark
R302	1-249-409-11	CARBON	220	5%	1/4W F
R303	1-249-433-11	CARBON	22K	5%	1/4W
R304	1-247-889-00	CARBON	270K	5%	1/4W
R305	1-247-858-11	CARBON	13K	5%	1/4W
R311	1-247-881-00	CARBON	120K	5%	1/4W
R312	1-247-807-31	CARBON	100	5%	1/4W
R314	1-247-882-11	CARBON	130K	5%	1/4W
R315	1-247-850-11	CARBON	6.2K	5%	1/4W
R331	1-249-430-11	CARBON	12K	5%	1/4W
R401	1-247-881-00	CARBON	120K	5%	1/4W
R402	1-249-409-11	CARBON	220	5%	1/4W F
R403	1-249-433-11	CARBON	22K	5%	1/4W
R404	1-247-889-00	CARBON	270K	5%	1/4W
R405	1-247-858-11	CARBON	13K	5%	1/4W
R411	1-247-881-00	CARBON	120K	5%	1/4W
R412	1-247-807-31	CARBON	100	5%	1/4W
R414	1-247-882-11	CARBON	130K	5%	1/4W
R415	1-247-850-11	CARBON	6.2K	5%	1/4W
R431	1-249-430-11	CARBON	12K	5%	1/4W
R601	1-249-409-11	CARBON	220	5%	1/4W F
R602	1-249-409-11	CARBON	220	5%	1/4W F
R608	1-249-409-11	CARBON	220	5%	1/4W F
R609	1-249-433-11	CARBON	22K	5%	1/4W
R611	1-249-409-11	CARBON	220	5%	1/4W F
R612	1-249-409-11	CARBON	220	5%	1/4W F
⚠R621	1-212-851-00	FUSIBLE	5.6	5%	1/4W F
⚠R622	1-212-851-00	FUSIBLE	5.6	5%	1/4W F
R623	1-249-432-11	CARBON	18K	5%	1/4W
R624	1-249-432-11	CARBON	18K	5%	1/4W
R625	1-249-429-11	CARBON	10K	5%	1/4W
		< VARIABLE RESISTOR >			
RV301	1-238-598-11	RES, ADJ, CARBON 2.2K			
RV311	1-238-598-11	RES, ADJ, CARBON 2.2K			
RV341	1-241-768-11	RES, ADJ, CARBON 220K			
RV401	1-238-598-11	RES, ADJ, CARBON 2.2K			
RV411	1-238-598-11	RES, ADJ, CARBON 2.2K			
RV441	1-241-768-11	RES, ADJ, CARBON 220K			
		< TRANSFORMER >			
T621	1-423-980-11	TRANSFORMER, BIAS OSCILLATION			

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*	A-4724-486-A	BD BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C102	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C103	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C104	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C108	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C109	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V
C110	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C111	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C112	1-163-038-91	CERAMIC CHIP	0.1uF		25V

Ref. No.	Part No.	Description			Remark
C113	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C114	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C115	1-126-607-11	ELECT CHIP	47uF	20%	4V
C116	1-126-607-11	ELECT CHIP	47uF	20%	4V
C117	1-126-209-11	ELECT CHIP	100uF	20%	4V
C118	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C119	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C121	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C122	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C123	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C124	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C125	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C126	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C127	1-128-065-11	ELECT CHIP	68uF	20%	10V
C128	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C129	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C130	1-164-346-11	CERAMIC CHIP	1uF		16V
C131	1-124-779-00	ELECT CHIP	10uF	20%	16V
C133	1-164-346-11	CERAMIC CHIP	1uF		16V
C140	1-164-346-11	CERAMIC CHIP	1uF		16V
C141	1-164-346-11	CERAMIC CHIP	1uF		16V
C143	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C151	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C153	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C154	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
C156	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C157	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C159	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C161	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C162	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C163	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C165	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C167	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C168	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C171	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C172	1-163-123-00	CERAMIC CHIP	180PF	5%	50V
C181	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C182	1-163-123-00	CERAMIC CHIP	180PF	5%	50V
		< CONNECTOR >			
CN101	1-778-874-11	CONNECTOR,FFC(LIF(NON-ZIF))19P			
CN102	1-777-937-11	CONNECTOR, FFC/FPC 16P			
		< FERRITE BEAD >			
FB101	1-500-445-21	FERRITE 0UH			
FB103	1-500-445-21	FERRITE 0UH			
		< IC >			
IC101	8-752-386-85	IC CXD2587Q			
IC102	8-759-549-28	IC BA5974FP-E			
IC103	8-752-085-51	IC CXA2568M-T			
		< TRANSISTOR >			
Q101	8-729-010-08	TRANSISTOR MSB710-R			

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

BD | CD SW | CONNECTOR

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R101	1-216-077-00	METAL CHIP	15K	5%	1/10W
R102	1-216-097-91	RES,CHIP	100K	5%	1/10W
R103	1-216-077-00	METAL CHIP	15K	5%	1/10W
R104	1-216-085-00	METAL CHIP	33K	5%	1/10W
R105	1-216-073-00	METAL CHIP	10K	5%	1/10W
R106	1-216-049-91	RES,CHIP	1K	5%	1/10W
R107	1-216-073-00	METAL CHIP	10K	5%	1/10W
R108	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R109	1-216-121-91	RES,CHIP	1M	5%	1/10W
R110	1-216-025-91	RES,CHIP	100	5%	1/10W
R111	1-216-121-91	RES,CHIP	1M	5%	1/10W
R113	1-216-121-91	RES,CHIP	1M	5%	1/10W
R114	1-216-073-00	METAL CHIP	10K	5%	1/10W
R116	1-216-001-00	METAL CHIP	10	5%	1/10W
R117	1-216-049-91	RES,CHIP	1K	5%	1/10W
R119	1-216-041-00	METAL CHIP	470	5%	1/10W
R123	1-216-073-00	METAL CHIP	10K	5%	1/10W
R124	1-216-097-91	RES,CHIP	100K	5%	1/10W
R131	1-216-033-00	METAL CHIP	220	5%	1/10W
R143	1-216-103-00	METAL CHIP	180K	5%	1/10W
R144	1-216-103-00	METAL CHIP	180K	5%	1/10W
R147	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R148	1-216-001-00	METAL CHIP	10	5%	1/10W
R149	1-216-001-00	METAL CHIP	10	5%	1/10W
R158	1-216-111-00	METAL CHIP	390K	5%	1/10W
R159	1-216-101-00	METAL CHIP	150K	5%	1/10W
R161	1-216-308-00	METAL CHIP	4.7	5%	1/10W
R162	1-216-101-00	METAL CHIP	150K	5%	1/10W
R171	1-216-078-00	RES,CHIP	16K	5%	1/10W
R172	1-216-073-00	METAL CHIP	10K	5%	1/10W
R173	1-216-077-00	METAL CHIP	15K	5%	1/10W
R181	1-216-078-00	RES,CHIP	16K	5%	1/10W
R182	1-216-073-00	METAL CHIP	10K	5%	1/10W
R183	1-216-077-00	METAL CHIP	15K	5%	1/10W
		< NETWORK >			
RN101	1-233-576-11	RES, CHIP NETWORK 100			
RN102	1-233-576-11	RES, CHIP NETWORK 100			
		< SWITCH >			
S101	1-572-085-11	SWITCH, LEAF (LIMIT IN SW)			
		< VIBRATOR >			
X101	1-767-408-21	VIBRATOR, CRYSTAL (16.9344MHz)			

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	A-4417-826-A	CD SW BOARD, COMPLETE			
		**********			
		< DIODE >			
D751	8-719-056-13	DIODE SML79423C-TP15 (DISC 1)			
D752	8-719-056-13	DIODE SML79423C-TP15 (DISC 2)			
D753	8-719-056-13	DIODE SML79423C-TP15 (DISC 3)			
D754	8-719-063-93	DIODE SLR325VC-N-T32 (**I**/⏻)			

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R751	1-249-417-11	CARBON	1K	5%	1/4W F
R752	1-249-418-11	CARBON	1.2K	5%	1/4W F
R753	1-249-420-11	CARBON	1.8K	5%	1/4W F
R754	1-249-422-11	CARBON	2.7K	5%	1/4W F
R755	1-247-843-11	CARBON	3.3K	5%	1/4W
R756	1-249-425-11	CARBON	4.7K	5%	1/4W F
R757	1-249-427-11	CARBON	6.8K	5%	1/4W F
R758	1-247-804-11	CARBON	75	5%	1/4W
R759	1-249-407-11	CARBON	150	5%	1/4W F
R760	1-247-804-11	CARBON	75	5%	1/4W
R761	1-249-407-11	CARBON	150	5%	1/4W F
R762	1-247-804-11	CARBON	75	5%	1/4W
R763	1-249-407-11	CARBON	150	5%	1/4W F
R764	1-249-414-11	CARBON	560	5%	1/4W F
		< SWITCH >			
S751	1-762-875-21	SWITCH, KEYBOARD (**I**/⏻)			
S752	1-762-875-21	SWITCH, KEYBOARD (DEMO (STANDBY))			
S753	1-762-875-21	SWITCH, KEYBOARD (DISC 1)			
S754	1-762-875-21	SWITCH, KEYBOARD (DISC 2)			
S755	1-762-875-21	SWITCH, KEYBOARD (DISC 3)			
S756	1-762-875-21	SWITCH, KEYBOARD (EXCHANGE DISC SKIP)			
S757	1-762-875-21	SWITCH, KEYBOARD (⏏)			

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*	1-658-575-11	CONNECTOR BOARD			
		**********			
		< CONNECTOR >			
* CN701	1-568-946-11	PIN, CONNECTOR 8P			
CN702	1-750-413-11	CONNECTOR, FFC/FPC 8P			
		< TRANSISTOR >			
Q701	8-729-900-80	TRANSISTOR DTC114ES			
		< RESISTOR >			
R703	1-249-435-11	CARBON	33K	5%	1/4W
R704	1-249-429-11	CARBON	10K	5%	1/4W
R705	1-249-417-11	CARBON	1K	5%	1/4W F

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Ref. No.	Part No.	Description	Remark
	A-4417-769-A	FRONT AMP BOARD, COMPLETE (US) **********	
	A-4417-783-A	FRONT AMP BOARD, COMPLETE (AEP,UK,G,CIS) **********	
	A-4426-201-A	FRONT AMP BOARD, COMPLETE **********	(E2,E3,EA,SP,AR,MX,AUS)
	A-4417-878-A	FRONT AMP BOARD, COMPLETE (CND) **********	
	A-4417-936-A	FRONT AMP BOARD, COMPLETE (TH) **********	
		< CAPACITOR >	
C801	1-126-963-11	ELECT 4.7uF 20% 50V	(GRX90AV/RXD10AV:AEP,UK,G,CIS)
C801	1-128-582-11	ELECT 10uF 20% 100V	(RXD10AV:US,CND)
C802	1-162-286-21	CERAMIC 220PF 10% 50V	
C803	1-162-282-31	CERAMIC 100PF 10% 50V	
C804	1-104-664-11	ELECT 47uF 20% 10V	(GRX90AV/RXD10AV:AEP,UK,G,CIS)
C804	1-126-967-11	ELECT 47uF 20% 50V	(RXD10AV:US,CND)
C806	1-128-560-11	ELECT 22uF 20% 100V	
C807	1-130-777-00	FILM 0.1uF 10% 100V	
C808	1-136-495-11	FILM 0.068uF 5% 50V	
C809	1-136-495-11	FILM 0.068uF 5% 50V	
C810	1-136-165-00	FILM 0.1uF 5% 50V	(RXD10AV:AEP,UK,G,CIS)
C811	1-136-165-00	FILM 0.1uF 5% 50V	(RXD10AV:AEP,UK,G,CIS)
C812	1-161-494-00	CERAMIC 0.022uF 25V	(RXD10AV:AEP,UK,G,CIS)
C821	1-128-562-11	ELECT 42uF 20% 100V	
C822	1-162-306-11	CERAMIC 0.01uF 20% 16V	
C823	1-162-306-11	CERAMIC 0.01uF 20% 16V	(RXD10AV:AEP,UK,G,CIS)
C825	1-104-665-11	ELECT 100uF 20% 10V	
C826	1-126-961-11	ELECT 2.2uF 20% 50V	
C827	1-104-665-11	ELECT 100uF 20% 10V	
C831	1-126-968-11	ELECT 100uF 20% 50V	
C851	1-126-963-11	ELECT 4.7uF 20% 50V	(GRX90AV/RXD10AV:AEP,UK,G,CIS)
C851	1-128-582-11	ELECT 10uF 20% 100V	(RXD10AV:US,CND)
C852	1-162-286-21	CERAMIC 220PF 10% 50V	
C853	1-162-282-31	CERAMIC 100PF 10% 50V	
C854	1-104-664-11	ELECT 47uF 20% 10V	(GRX90AV/RXD10AV:AEP,UK,G,CIS)
C854	1-126-967-11	ELECT 47uF 20% 50V	(RXD10AV:US,CND)
C856	1-128-560-11	ELECT 22uF 20% 100V	
C857	1-130-777-00	FILM 0.1uF 10% 100V	
C858	1-136-495-11	FILM 0.068uF 5% 50V	
C859	1-136-495-11	FILM 0.068uF 5% 50V	
C860	1-136-165-00	FILM 0.1uF 5% 50V	(RXD10AV:AEP,UK,G,CIS)
C861	1-136-165-00	FILM 0.1uF 5% 50V	(RXD10AV:AEP,UK,G,CIS)
C862	1-161-494-00	CERAMIC 0.022uF 25V	(RXD10AV:AEP,UK,G,CIS)
C871	1-136-165-00	FILM 0.1uF 5% 50V	(RXD10AV:AEP,UK,G,CIS)
C872	1-136-165-00	FILM 0.1uF 5% 50V	(RXD10AV:AEP,UK,G,CIS)
C873	1-136-165-00	FILM 0.1uF 5% 50V	(RXD10AV:AEP,UK,G,CIS)
C874	1-136-165-00	FILM 0.1uF 5% 50V	(RXD10AV:AEP,UK,G,CIS)
C875	1-136-165-00	FILM 0.1uF 5% 50V	(RXD10AV:AEP,UK,G,CIS)
C876	1-136-165-00	FILM 0.1uF 5% 50V	(RXD10AV:AEP,UK,G,CIS)
C877	1-161-494-00	CERAMIC 0.022uF 25V	(RXD10AV:AEP,UK,G,CIS)
C878	1-161-494-00	CERAMIC 0.022uF 25V	(RXD10AV:AEP,UK,G,CIS)
C879	1-161-494-00	CERAMIC 0.022uF 25V	(RXD10AV:AEP,UK,G,CIS)
C880	1-126-963-11	ELECT 4.7uF 20% 50V	
C881	1-127-751-11	ELECT 3300uF 20% 50V	(RXD10AV)
C881	1-127-811-11	ELECT 3300uF 20% 50V	(GRX90AV)
C882	1-127-751-11	ELECT 3300uF 20% 50V	(RXD10AV)
C882	1-127-811-11	ELECT 3300uF 20% 50V	(GRX90AV)
C883	1-127-752-11	ELECT 3300uF 20% 63V	(RXD10AV)
C883	1-127-813-11	ELECT 3300uF 20% 71V	(GRX90AV)
C884	1-127-752-11	ELECT 3300uF 20% 63V	(RXD10AV)
C884	1-127-813-11	ELECT 3300uF 20% 71V	(GRX90AV)
C885	1-136-165-00	FILM 0.1uF 5% 50V	
C886	1-136-165-00	FILM 0.1uF 5% 50V	
C887	1-130-777-00	FILM 0.1uF 10% 100V	
C888	1-130-777-00	FILM 0.1uF 10% 100V	
C889	1-164-159-21	CERAMIC 0.1uF 50V	
C890	1-164-159-21	CERAMIC 0.1uF 50V	
		< CONNECTOR >	
CN801	1-770-722-11	CONNECTOR, BOARD TO BOARD 6P	
CN802	1-778-981-11	CONNECTOR, BOARD TO BOARD 13P	
		< DIODE >	
D801	8-719-110-09	DIODE RD8.2ES-B3	
D802	8-719-991-33	DIODE 1SS133T-77	
D821	8-719-991-33	DIODE 1SS133T-77	
D831	8-719-991-33	DIODE 1SS133T-77	
D851	8-719-110-09	DIODE RD8.2ES-B3	
D852	8-719-991-33	DIODE 1SS133T-77	
D871	8-719-991-33	DIODE 1SS133T-77	
D881	8-719-510-68	DIODE D5SBA20F01	
D882	8-719-510-68	DIODE D5SBA20F01	

FRONT AMP

Ref. No.	Part No.	Description	Remark
D883	8-719-991-33	DIODE 1SS133T-77	
D884	8-719-991-33	DIODE 1SS133T-77	
D885	8-719-991-33	DIODE 1SS133T-77	
		< GROUND PLATE >	
* EP801	1-537-738-21	TERMINAL, EARTH (RXD10AV:AEP,UK,G,CIS)	
EP802	1-537-738-21	TERMINAL, EARTH	
		< IC >	
IC801	8-749-015-32	IC STK411-290E (RXD10AV:CND,AEP,UK,G,CIS)	
IC801	8-749-016-09	IC STK411-210M (RXD10AV:US)	
IC801	8-749-016-11	IC STK411-230M (GRX90AV)	
		< COIL >	
L801	1-420-872-00	COIL, AIR-CORE (RXD10AV:AEP,UK,G,CIS)	
L851	1-420-872-00	COIL, AIR-CORE (RXD10AV:AEP,UK,G,CIS)	
L871	1-420-872-00	COIL, AIR-CORE (RXD10AV:AEP,UK,G,CIS)	
L872	1-420-872-00	COIL, AIR-CORE (RXD10AV:AEP,UK,G,CIS)	
L873	1-420-872-00	COIL, AIR-CORE (RXD10AV:AEP,UK,G,CIS)	
		< TRANSISTOR >	
Q801	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q821	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q822	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q825	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q826	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q827	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q828	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q829	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q830	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q831	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q832	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q851	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q881	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q882	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q883	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q884	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q885	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q886	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
		< RESISTOR >	
R801	1-249-417-11	CARBON 1K 5% 1/4W F	
R802	1-249-438-11	CARBON 56K 5% 1/4W	
R803	1-247-828-11	CARBON 750 5% 1/4W F	(RXD10AV:US)
R803	1-247-829-11	CARBON 820 5% 1/4W F	(GRX90AV)
R803	1-247-831-91	CARBON 1K 5% 1/4W F	(RXD10AV:CND,AEP,UK,G,CIS)
R804	1-249-438-11	CARBON 56K 5% 1/4W	
⚠ R805	1-212-881-11	FUSIBLE 100 5% 1/4W F	
R806	1-260-335-11	CARBON 3.9K 5% 1/2W	
⚠ R807	1-217-151-00	METAL 0.22 10% 2W	(RXD10AV:CND,AEP,UK,G,CIS)
⚠ R807	1-217-156-00	METAL 0.22 10% 5W	(GRX90AV/RXD10AV:US)
R808	1-249-417-11	CARBON 1K 5% 1/4W F	
R809	1-249-431-11	CARBON 15K 5% 1/4W	
R810	1-249-441-11	CARBON 100K 5% 1/4W	
R811	1-260-076-11	CARBON 10 5% 1/2W	
R812	1-260-076-11	CARBON 10 5% 1/2W	(RXD10AV:AEP,UK,G,CIS)
R813	1-260-076-11	CARBON 10 5% 1/2W	(RXD10AV:AEP,UK,G,CIS)
R814	1-249-437-11	CARBON 47K 5% 1/4W	
R821	1-249-435-11	CARBON 33K 5% 1/4W	
R822	1-247-863-91	CARBON 22K 5% 1/4W	
R823	1-249-439-11	CARBON 68K 5% 1/4W	
R824	1-249-421-11	CARBON 2.2K 5% 1/4W F	
R825	1-247-863-91	CARBON 22K 5% 1/4W	
R826	1-249-429-11	CARBON 10K 5% 1/4W	
R827	1-249-421-11	CARBON 2.2K 5% 1/4W F	
R828	1-202-972-61	FUSIBLE 1 5% 1/4W F	
R832	1-249-431-11	CARBON 15K 5% 1/4W	
R833	1-249-435-11	CARBON 33K 5% 1/4W	
R835	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R836	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R837	1-247-863-91	CARBON 22K 5% 1/4W	
R838	1-249-435-11	CARBON 33K 5% 1/4W	
R839	1-249-429-11	CARBON 10K 5% 1/4W	
R840	1-249-429-11	CARBON 10K 5% 1/4W	
R841	1-249-437-11	CARBON 47K 5% 1/4W	
R842	1-249-438-11	CARBON 56K 5% 1/4W	
R843	1-249-439-11	CARBON 68K 5% 1/4W	
R844	1-249-438-11	CARBON 56K 5% 1/4W	
R845	1-249-437-11	CARBON 47K 5% 1/4W	
R851	1-249-417-11	CARBON 1K 5% 1/4W F	
R852	1-249-438-11	CARBON 56K 5% 1/4W	
R853	1-247-828-11	CARBON 750 5% 1/4W F	(RXD10AV:US)
R853	1-247-829-11	CARBON 820 5% 1/4W F	(GRX90AV)
R853	1-247-831-91	CARBON 1K 5% 1/4W F	(RXD10AV:CND,AEP,UK,G,CIS)
R854	1-249-438-11	CARBON 56K 5% 1/4W	
⚠ R855	1-212-881-11	FUSIBLE 100 5% 1/4W F	
R856	1-260-335-11	CARBON 3.9K 5% 1/2W	
⚠ R857	1-217-151-00	METAL 0.22 10% 2W	(RXD10AV:CND,AEP,UK,G,CIS)
⚠ R857	1-217-156-00	METAL 0.22 10% 5W	(GRX90AV/RXD10AV:US)
R858	1-249-417-11	CARBON 1K 5% 1/4W F	
R859	1-249-431-11	CARBON 15K 5% 1/4W	
R860	1-249-441-11	CARBON 100K 5% 1/4W	
R861	1-260-076-11	CARBON 10 5% 1/2W	
R862	1-260-076-11	CARBON 10 5% 1/2W	(RXD10AV:AEP,UK,G,CIS)
R863	1-260-076-11	CARBON 10 5% 1/2W	(RXD10AV:AEP,UK,G,CIS)
R864	1-249-437-11	CARBON 47K 5% 1/4W	
R871	1-249-437-11	CARBON 47K 5% 1/4W	
R872	1-249-437-11	CARBON 47K 5% 1/4W	
R873	1-249-437-11	CARBON 47K 5% 1/4W	
R874	1-260-076-11	CARBON 10 5% 1/2W	(RXD10AV:AEP,UK,G,CIS)

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Ref. No.	Part No.	Description				Remark
R875	1-260-076-11	CARBON	10	5%	1/2W	(RXD10AV:AEP,UK,G,CIS)
R876	1-260-076-11	CARBON	10	5%	1/2W	(RXD10AV:AEP,UK,G,CIS)
R877	1-260-076-11	CARBON	10	5%	1/2W	(RXD10AV:AEP,UK,G,CIS)
R878	1-260-076-11	CARBON	10	5%	1/2W	(RXD10AV:AEP,UK,G,CIS)
R879	1-260-076-11	CARBON	10	5%	1/2W	(RXD10AV:AEP,UK,G,CIS)
R881	1-249-429-11	CARBON	10K	5%	1/4W	
R882	1-249-437-11	CARBON	47K	5%	1/4W	
R883	1-249-429-11	CARBON	10K	5%	1/4W	
R884	1-249-441-11	CARBON	100K	5%	1/4W	
⚠R885	1-215-456-00	METAL OXIDE	820	5%	2W F	(RXD10AV:CND)
⚠R885	1-215-892-11	METAL OXIDE	1K	5%	2W F	(RXD10AV:AEP,UK,G,CIS)
⚠R885	1-216-457-00	METAL OXIDE	1.2K	5%	2W F	(GRX90AV/RXD10AV:US)
R886	1-249-429-11	CARBON	10K	5%	1/4W	
R887	1-249-437-11	CARBON	47K	5%	1/4W	
R888	1-249-429-11	CARBON	10K	5%	1/4W	
R889	1-249-441-11	CARBON	100K	5%	1/4W	
⚠R890	1-215-456-00	METAL OXIDE	820	5%	2W F	(RXD10AV:CND)
⚠R890	1-215-892-11	METAL OXIDE	1K	5%	2W F	(RXD10AV:AEP,UK,G,CIS)
⚠R890	1-216-457-00	METAL OXIDE	1.2K	5%	2W F	(GRX90AV/RXD10AV:US)
R891	1-249-429-11	CARBON	10K	5%	1/4W	
R892	1-249-437-11	CARBON	47K	5%	1/4W	
R893	1-249-429-11	CARBON	10K	5%	1/4W	
R894	1-249-441-11	CARBON	100K	5%	1/4W	
⚠R895	1-215-456-00	METAL OXIDE	820	5%	2W F	(RXD10AV:CND)
⚠R895	1-215-892-11	METAL OXIDE	1K	5%	2W F	(RXD10AV:AEP,UK,G,CIS)
⚠R895	1-216-457-00	METAL OXIDE	1.2K	5%	2W F	(RXD10AV:US)
R896	1-247-863-91	CARBON	22K	5%	1/4W	
R897	1-247-863-91	CARBON	22K	5%	1/4W	
		< RELAY >				
RY881	1-515-920-11	RELAY (RXD10AV:CND,AEP,UK,G,CIS)				
RY881	1-755-168-11	RELAY (GRX90AV/RXD10AV:US)				
RY882	1-515-920-11	RELAY (24V)				
RY883	1-515-920-11	RELAY (24V)				
		< TERMINAL >				
TM801	1-537-240-11	TERMINAL BOARD (CHECKER PIN) (GRX90AV/RXD10AV:US,CND)				
TM801	1-537-842-11	TERMINAL BOARD (RXD10AV:AEP,UK,G,CIS)				
TM802	1-537-510-11	TERMINAL BOARD (SPEAKER) (6P) (GRX90AV/RXD10AV:US,CND)				
TM802	1-537-510-31	TERMINAL BOARD (SPEAKER) (6P) (RXD10AV:AEP,UK,G,CIS)				

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Ref. No.	Part No.	Description				Remark
*	A-2007-732-A	LEAF SW BOARD, COMPLETE				
		**********				
		< CAPACITOR >				
C1001	1-107-716-11	ELECT	33uF	20%	10V	
		< CONNECTOR >				
CN1001	1-568-860-11	SOCKET, CONNECTOR 17P				
CN1001	1-784-459-11	CONNECTOR, FFC/FPC 17P				
		< DIODE >				
D1001	8-719-911-19	DIODE 1SS119				
D1002	8-719-911-19	DIODE 1SS119				
		< HOLDER >				
* DM1001	1-784-581-11	HOLDER, CABLE (2.5MM PITCH) 4P				
		< IC >				
IC1001	8-749-014-38	IC PHOTO INTERRUPTER SG-264				
IC1002	8-749-014-38	IC PHOTO INTERRUPTER SG-264				
		< TRANSISTOR >				
Q1001	8-729-029-56	TRANSISTOR DTA144ESA				
		< RESISTOR >				
R907	1-247-879-11	CARBON	100K	5%	1/4W	
R1001	1-249-409-11	CARBON	220	5%	1/4W	F
R1002	1-249-409-11	CARBON	220	5%	1/4W	F
R1003	1-249-414-11	CARBON	560	5%	1/4W	F
R1004	1-247-834-11	CARBON	1.3K	5%	1/4W	
R1005	1-247-818-11	CARBON	300	5%	1/4W	
R1006	1-247-864-11	CARBON	24K	5%	1/4W	
R1007	1-247-856-00	CARBON	11K	5%	1/4W	
R1008	1-249-417-11	CARBON	1K	5%	1/4W	F
		< VARIABLE RESISTOR >				
RV1001	1-241-785-11	RES, ADJ, CARBON 10K				
RV1002	1-241-785-11	RES, ADJ, CARBON 10K				
		< SWITCH >				
S1001	1-570-953-11	SWITCH, PUSH (1 KEY)(A PLAY)				
S1002	1-570-953-11	SWITCH, PUSH (1 KEY)(B PLAY)				
S1003	1-771-333-11	SWITCH, LEAF (A HALF)				
S1004	1-771-205-11	SWITCH, LEAF (A 120/70)				
S1005	1-771-205-11	SWITCH, LEAF (REC A)				
S1006	1-771-333-11	SWITCH, LEAF (B HALF)				
S1008	1-771-205-11	SWITCH, LEAF (B 120/70)				
S1009	1-771-205-11	SWITCH, LEAF (REC B)				

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MAIN

Ref. No.	Part No.	Description	Remark
	A-4417-758-A	MAIN BOARD, COMPLETE (E2,AR,MX,TH)	
		**********	
	A-4417-760-A	MAIN BOARD, COMPLETE (US)	
		**********	
	A-4417-779-A	MAIN BOARD, COMPLETE (AEP,UK,G,CIS)	
		**********	
	A-4417-788-A	MAIN BOARD, COMPLETE (E3,SP)	
		**********	
	A-4417-876-A	MAIN BOARD, COMPLETE (CND)	
		**********	
	A-4417-886-A	MAIN BOARD, COMPLETE (AUS)	
		**********	
	A-4417-906-A	MAIN BOARD, COMPLETE (EA)	
		**********	
	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
		< CAPACITOR >	
C101	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	
C102	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	
C103	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	
C104	1-163-038-91	CERAMIC CHIP 0.1uF 25V	
C111	1-137-195-11	FILM 0.56uF 5% 50V	
C112	1-136-158-00	FILM 0.027uF 5% 50V	
C113	1-136-167-00	FILM 0.15uF 5% 50V	
C114	1-130-480-00	MYLAR 0.0056uF 5% 50V	
C115	1-136-159-00	FILM 0.033uF 5% 50V	
C116	1-130-473-00	MYLAR 0.0015uF 5% 50V	
C117	1-136-153-00	FILM 0.01uF 5% 50V	
C118	1-110-341-11	MYLAR 330PF 5% 50V	
C119	1-130-479-00	MYLAR 0.0047uF 5% 50V	
C120	1-130-477-00	MYLAR 0.0033uF 5% 50V	
C121	1-126-964-11	ELECT 10uF 20% 50V	
C122	1-163-006-11	CERAMIC CHIP 560PF 10% 50V	
C123	1-136-169-00	FILM 0.22uF 5% 50V	
C124	1-136-169-00	FILM 0.22uF 5% 50V	
C125	1-126-964-11	ELECT 10uF 20% 50V	
C127	1-136-153-00	FILM 0.01uF 5% 50V	
C128	1-136-495-11	FILM 0.068uF 5% 50V	
C131	1-104-664-11	ELECT 47uF 20% 16V	
C132	1-104-664-11	ELECT 47uF 20% 16V	
C134	1-126-964-11	ELECT 10uF 20% 50V	
C141	1-126-959-11	ELECT 0.47uF 20% 50V	
C151	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	
C152	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	
C153	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	
C161	1-137-195-11	FILM 0.56uF 5% 50V	
C162	1-136-158-00	FILM 0.027uF 5% 50V	
C163	1-136-167-00	FILM 0.15uF 5% 50V	
C164	1-130-480-00	MYLAR 0.0056uF 5% 50V	
C165	1-136-159-00	FILM 0.033uF 5% 50V	
C166	1-130-473-00	MYLAR 0.0015uF 5% 50V	
C167	1-136-153-00	FILM 0.01uF 5% 50V	
C168	1-110-341-11	MYLAR 330PF 5% 50V	

Ref. No.	Part No.	Description	Remark
C169	1-130-479-00	MYLAR 0.0047uF 5% 50V	
C170	1-130-477-00	MYLAR 0.0033uF 5% 50V	
C171	1-126-964-11	ELECT 10uF 20% 50V	
C172	1-163-006-11	CERAMIC CHIP 560PF 10% 50V	
C173	1-136-169-00	FILM 0.22uF 5% 50V	
C174	1-136-169-00	FILM 0.22uF 5% 50V	
C175	1-126-964-11	ELECT 10uF 20% 50V	
C191	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	
C201	1-126-964-11	ELECT 10uF 20% 50V	
C202	1-126-964-11	ELECT 10uF 20% 50V	
C204	1-126-959-11	ELECT 0.47uF 20% 50V	
C207	1-136-165-00	FILM 0.1uF 5% 50V	
C208	1-136-165-00	FILM 0.1uF 5% 50V	
C210	1-126-959-11	ELECT 0.47uF 20% 50V	
C212	1-126-959-11	ELECT 0.47uF 20% 50V	
C215	1-126-959-11	ELECT 0.47uF 20% 50V	
C217	1-126-959-11	ELECT 0.47uF 20% 50V	
C218	1-136-165-00	FILM 0.1uF 5% 50V	
C219	1-163-038-91	CERAMIC CHIP 0.1uF 25V	
C221	1-126-964-11	ELECT 10uF 20% 50V	
C224	1-163-009-91	CERAMIC CHIP 0.001uF	
C225	1-163-021-91	CERAMIC CHIP 0.01uF 10% 50V	
C226	1-126-960-11	ELECT 1uF 20% 50V	
C228	1-130-479-00	MYLAR 0.0047uF 5% 50V	
C229	1-130-471-00	MYLAR 0.001uF 5% 50V	
C231	1-136-165-00	FILM 0.1uF 5% 50V	
C233	1-136-169-00	FILM 0.22uF 5% 50V	
C234	1-136-169-00	FILM 0.22uF 5% 50V	
C235	1-136-165-00	FILM 0.1uF 5% 50V	
C237	1-130-479-00	MYLAR 0.0047uF 5% 50V	
C238	1-130-471-00	MYLAR 0.001uF 5% 50V	
C240	1-126-960-11	ELECT 1uF 20% 50V	
C243	1-130-480-00	MYLAR 0.0056uF 5% 50V	
C244	1-136-161-00	FILM 0.047uF 5% 50V	
C245	1-136-175-00	FILM 0.68uF 5% 50V	
C246	1-136-169-00	FILM 0.22uF 5% 50V	
C247	1-136-169-00	FILM 0.22uF 5% 50V	
C248	1-126-963-11	ELECT 4.7uF 20% 50V	
C249	1-126-963-11	ELECT 4.7uF 20% 50V	
C250	1-136-169-00	FILM 0.22uF 5% 50V	
C251	1-136-169-00	FILM 0.22uF 5% 50V	
C252	1-136-165-00	FILM 0.1uF 5% 50V	
C253	1-136-161-00	FILM 0.047uF 5% 50V	
C254	1-136-161-00	FILM 0.047uF 5% 50V	
C255	1-136-165-00	FILM 0.1uF 5% 50V	
C256	1-136-165-00	FILM 0.1uF 5% 50V	
C257	1-136-157-00	FILM 0.022uF 5% 50V	
C258	1-136-157-00	FILM 0.022uF 5% 50V	
C259	1-136-165-00	FILM 0.1uF 5% 50V	
C260	1-130-469-00	MYLAR 680PF 5% 50V	
C261	1-136-153-00	FILM 0.01uF 5% 50V	
C262	1-130-469-00	MYLAR 680PF 5% 50V	
C263	1-136-153-00	FILM 0.01uF 5% 50V	
C264	1-136-153-00	FILM 0.01uF 5% 50V	
C265	1-136-153-00	FILM 0.01uF 5% 50V	
C266	1-104-664-11	ELECT 47uF 20% 16V	
C267	1-130-481-00	MYLAR 0.0068uF 5% 50V	

Ref. No.	Part No.	Description			Remark
C268	1-126-963-11	ELECT	4.7uF	20%	50V
C269	1-126-934-11	ELECT	220uF	20%	16V
C270	1-126-934-11	ELECT	220uF	20%	16V
C272	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C273	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C274	1-126-964-11	ELECT	10uF	20%	50V
C275	1-126-964-11	ELECT	10uF	20%	50V
C276	1-126-964-11	ELECT	10uF	20%	50V
C277	1-126-964-11	ELECT	10uF	20%	50V
C278	1-126-964-11	ELECT	10uF	20%	50V
C279	1-126-964-11	ELECT	10uF	20%	50V
C280	1-126-964-11	ELECT	10uF	20%	50V
C281	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C282	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C283	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C284	1-126-959-11	ELECT	0.47uF	20%	50V
C285	1-126-959-11	ELECT	0.47uF	20%	50V
C291	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C292	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C293	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C294	1-126-959-11	ELECT	0.47uF	20%	50V
C301	1-126-960-11	ELECT	1uF	20%	50V
C302	1-130-479-00	MYLAR	0.0047uF	5%	50V
C303	1-136-165-00	FILM	0.1uF	5%	50V
C304	1-136-165-00	FILM	0.1uF	5%	50V
C305	1-126-964-11	ELECT	10uF	20%	50V
C306	1-126-960-11	ELECT	1uF	20%	50V
C307	1-126-959-11	ELECT	0.47uF	20%	50V
C308	1-126-964-11	ELECT	10uF	20%	50V
C309	1-137-194-81	FILM	0.47uF	5%	50V
C310	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C311	1-126-964-11	ELECT	10uF	20%	50V
C312	1-126-959-11	ELECT	0.47uF	20%	50V
C313	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C314	1-126-964-11	ELECT	10uF	20%	50V
C315	1-126-963-11	ELECT	4.7uF	20%	50V
C316	1-126-933-11	ELECT	100uF	20%	16V
C317	1-126-933-11	ELECT	100uF	20%	16V
C320	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C351	1-126-960-11	ELECT	1uF	20%	50V
C352	1-130-479-00	MYLAR	0.0047uF	5%	50V
C353	1-136-165-00	FILM	0.1uF	5%	50V
C354	1-136-165-00	FILM	0.1uF	5%	50V
C355	1-126-964-11	ELECT	10uF	20%	50V
C356	1-126-960-11	ELECT	1uF	20%	50V
C357	1-126-959-11	ELECT	0.47uF	20%	50V
C358	1-126-964-11	ELECT	10uF	20%	50V
C359	1-137-194-81	FILM	0.47uF	5%	50V
C373	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C374	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C401	1-126-961-11	ELECT	2.2uF	20%	50V
C403	1-107-721-11	ELECT	4.7uF	20%	100V
C411	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C412	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C413	1-126-916-11	ELECT	1000uF	20%	6.3V
C414	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C415	1-126-925-11	ELECT	470uF	20%	10V

Ref. No.	Part No.	Description			Remark
C416	1-126-916-11	ELECT	1000uF	20%	6.3V
C421	1-107-717-11	ELECT	47uF	20%	50V
C423	1-104-665-11	ELECT	100uF	20%	10V
C431	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C432	1-126-963-11	ELECT	4.7uF	20%	50V
C451	1-126-961-11	ELECT	2.2uF	20%	50V
C453	1-107-721-11	ELECT	4.7uF	20%	100V
C501	1-126-964-11	ELECT	10uF	20%	50V
C502	1-136-165-00	FILM	0.1uF	5%	50V
C503	1-136-165-00	FILM	0.1uF	5%	50V
C504	1-126-916-11	ELECT	1000uF	20%	6.3V
C506	1-107-713-11	ELECT	4.7uF	20%	50V
C510	1-163-233-11	CERAMIC CHIP	18PF	5%	50V
C511	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C512	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C516	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C517	1-104-665-11	ELECT	100uF	20%	10V
C532	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C549	1-126-964-11	ELECT	10uF	20%	50V
C562	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C563	1-104-665-11	ELECT	100uF	20%	10V
C598	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C599	1-104-665-11	ELECT	100uF	20%	10V
C901	1-136-165-00	FILM	0.1uF	5%	50V
C902	1-126-937-11	ELECT	4700uF	20%	16V
C903	1-126-934-11	ELECT	220uF	20%	16V
C904	1-126-924-11	ELECT	330uF	20%	10V
C905	1-104-664-11	ELECT	47uF	20%	16V
C906	1-136-165-00	FILM	0.1uF	5%	50V
C907	1-128-548-11	ELECT	4700uF	20%	25V
C908	1-126-964-11	ELECT	10uF	20%	50V
C909	1-126-916-11	ELECT	1000uF	20%	6.3V
C912	1-126-964-11	ELECT	10uF	20%	50V
C913	1-104-665-11	ELECT	100uF	20%	10V
C914	1-126-964-11	ELECT	10uF	20%	50V
C915	1-126-933-11	ELECT	100uF	20%	16V
C916	1-126-964-11	ELECT	10uF	20%	50V
C917	1-126-767-11	ELECT	1000uF	20%	16V
C918	1-104-664-11	ELECT	47uF	20%	16V
C919	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C920	1-126-933-11	ELECT	100uF	20%	16V
C923	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C925	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C926	1-126-916-11	ELECT	1000uF	20%	6.3V (GRX90AV)
C931	1-126-961-11	ELECT	2.2uF	20%	50V
C951	1-136-165-00	FILM	0.1uF	5%	50V
C952	1-126-768-11	ELECT	2200uF	20%	16V
C953	1-126-934-11	ELECT	220uF	20%	16V
C954	1-126-924-11	ELECT	330uF	20%	10V
C956	1-136-165-00	FILM	0.1uF	5%	50V

< CONNECTOR >

* CN111	1-568-862-11	SOCKET, CONNECTOR 19P	
CN112	1-785-334-11	PIN, CONNECTOR (LIGHT ANGLE)8P	
CN113	1-785-335-11	PIN, CONNECTOR (LIGHT ANGLE)9P	
* CN121	1-568-832-11	SOCKET, CONNECTOR 13P (GRX90AV:E2,AR,MX,TH/RXD10AV:US,CND)	

MAIN

Ref. No.	Part No.	Description	Remark
CN121	1-568-834-11	SOCKET, CONNECTOR 15P (GRX90AV:E3,EA,SP,AUS/RXD10AV:AEP,UK,G,CIS)	
CN131	1-568-834-11	SOCKET, CONNECTOR 15P	
* CN132	1-568-836-11	SOCKET, CONNECTOR 17P	
* CN141	1-568-839-11	SOCKET, CONNECTOR 23P	
CN151	1-770-726-11	CONNECTOR, BOARD TO BOARD 6P	
CN152	1-778-982-11	CONNECTOR, BOARD TO BOARD 13P	
* CN171	1-564-518-11	PLUG, CONNECTOR 3P	
* CN301	1-568-449-11	HOUSING, CONNECTOR(PC BOARD)3P	
		< DIODE >	
D141	8-719-988-61	DIODE 1SS355TE-17	
D371	8-719-988-61	DIODE 1SS355TE-17	
D372	8-719-988-61	DIODE 1SS355TE-17	
D373	8-719-988-61	DIODE 1SS355TE-17	
D374	8-719-988-61	DIODE 1SS355TE-17	
D501	8-719-988-61	DIODE 1SS355TE-17	
D502	8-719-988-61	DIODE 1SS355TE-17	
D503	8-719-988-61	DIODE 1SS355TE-17	
D504	8-719-988-61	DIODE 1SS355TE-17	
D505	8-719-988-61	DIODE 1SS355TE-17	
D506	8-719-988-61	DIODE 1SS355TE-17	
D507	8-719-988-61	DIODE 1SS355TE-17	
D509	8-719-988-61	DIODE 1SS355TE-17	
D510	8-719-988-61	DIODE 1SS355TE-17	
D512	8-719-988-61	DIODE 1SS355TE-17	
D901	8-719-200-82	DIODE 11ES2	
D902	8-719-200-82	DIODE 11ES2	
D903	8-719-200-82	DIODE 11ES2	
D904	8-719-200-82	DIODE 11ES2	
D905	8-719-988-61	DIODE 1SS355TE-17	
D906	8-719-158-15	DIODE RD5.6S-B	
D908	8-719-200-82	DIODE 11ES2	
D909	8-719-200-82	DIODE 11ES2	
D910	8-719-200-82	DIODE 11ES2	
D911	8-719-200-82	DIODE 11ES2	
D912	8-719-056-88	DIODE UDZ-TE-17-11B	
D914	8-719-988-61	DIODE 1SS355TE-17 (GRX90AV)	
D915	8-719-210-33	DIODE EC10DS2 (GRX90AV)	
D916	8-719-210-33	DIODE EC10DS2 (GRX90AV)	
D918	8-719-210-33	DIODE EC10DS2 (GRX90AV)	
D931	8-719-988-61	DIODE 1SS355TE-17	
D932	8-719-988-61	DIODE 1SS355TE-17	
		< IC >	
IC101	8-759-571-54	IC M62493FP	
IC201	8-759-571-51	IC M62464FP	
IC301	8-759-495-26	IC HA12215	
IC421	8-749-923-04	IC TOTX178	
IC501	8-759-588-90	IC M30622MA-A08FP	
IC502	8-759-635-63	IC M51943BSL	
IC901	8-759-231-53	IC TA7805S	
IC902	8-759-604-86	IC M5F7807L	
IC903	8-759-604-32	IC M5F7810	
IC904	8-759-604-39	IC M5F78MRL (US)	
IC904	8-759-701-79	IC NJM7812FA (EXCEPT US)	

Ref. No.	Part No.	Description	Remark
		< JACK >	
J101	1-774-411-11	JACK, PIN 6P	
J102	1-779-599-11	JACK, PIN 6P	
J191	1-774-785-11	JACK, PIN 1P	
		< COIL >	
L411	1-408-619-31	INDUCTOR 220uH	
L421	1-410-482-31	INDUCTOR 100uH	
L501	1-410-470-11	INDUCTOR 10uH	
		< TRANSISTOR >	
Q111	8-729-900-36	TRANSISTOR DTC124ES	
Q112	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q113	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q114	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q161	8-729-900-36	TRANSISTOR DTC124ES	
Q162	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q163	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q164	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q191	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q281	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q282	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q291	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q371	8-729-118-00	TRANSISTOR 2SB1116-L	
Q372	8-729-900-80	TRANSISTOR DTC114ES	
Q373	8-729-118-00	TRANSISTOR 2SB1116-L	
Q374	8-729-900-80	TRANSISTOR DTC114ES	
Q375	8-729-900-80	TRANSISTOR DTC114ES	
Q376	8-729-116-59	TRANSISTOR 2SB1068TP	
Q377	8-729-045-21	TRANSISTOR 2SD1513TP-LK	
Q378	8-729-422-57	TRANSISTOR UN4111	
Q379	8-729-900-80	TRANSISTOR DTC114ES	
Q380	8-729-116-59	TRANSISTOR 2SB1068TP	
Q381	8-729-045-21	TRANSISTOR 2SD1513TP-LK	
Q382	8-729-422-57	TRANSISTOR UN4111	
Q383	8-729-900-80	TRANSISTOR DTC114ES	
Q411	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q421	8-729-900-63	TRANSISTOR DTA124ES	
Q431	8-729-111-29	TRANSISTOR 2SD1616A-K	
Q432	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q461	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q501	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q502	8-729-900-63	TRANSISTOR DTA124ES	
Q503	8-729-900-63	TRANSISTOR DTA124ES	
Q901	8-729-209-15	TRANSISTOR 2SD2012	
Q902	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q903	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q904	8-729-900-36	TRANSISTOR DTC124ES	
Q905	8-729-900-36	TRANSISTOR DTC124ES	
Q906	8-729-040-20	TRANSISTOR RT1P137L-TP	
Q907	8-729-900-36	TRANSISTOR DTC124ES	
Q908	8-729-040-20	TRANSISTOR RT1P137L-TP	
Q909	8-729-900-36	TRANSISTOR DTC124ES	
Q910	8-729-026-68	TRANSISTOR 2SD2525(TP)	
Q913	8-729-040-20	TRANSISTOR RT1P137L-TP	
Q914	8-729-900-36	TRANSISTOR DTC124ES	

Ref. No.	Part No.	Description			Remark
Q951	8-729-141-83	TRANSISTOR	2SB1094-LK		
Q952	8-729-119-76	TRANSISTOR	2SA1175-HFE		
Q953	8-729-119-76	TRANSISTOR	2SA1175-HFE		
		< RESISTOR >			
R101	1-216-049-91	RES,CHIP	1K	5%	1/10W
R102	1-216-049-91	RES,CHIP	1K	5%	1/10W
R103	1-216-049-91	RES,CHIP	1K	5%	1/10W
R111	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R112	1-216-073-00	METAL CHIP	10K	5%	1/10W
R113	1-216-295-91	SHORT	0		
R114	1-216-113-00	METAL CHIP	470K	5%	1/10W
R115	1-216-112-00	RES,CHIP	430K	5%	1/10W
R116	1-216-106-00	METAL CHIP	240K	5%	1/10W
R117	1-216-045-00	METAL CHIP	680	5%	1/10W
R118	1-216-081-00	METAL CHIP	22K	5%	1/10W
R119	1-216-105-91	RES,CHIP	220K	5%	1/10W
R120	1-216-073-00	METAL CHIP	10K	5%	1/10W
R121	1-216-089-91	RES,CHIP	47K	5%	1/10W
R122	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R123	1-216-097-91	RES,CHIP	100K	5%	1/10W
R124	1-216-073-00	METAL CHIP	10K	5%	1/10W
R125	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R126	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R131	1-216-025-91	RES,CHIP	100	5%	1/10W
R132	1-216-025-91	RES,CHIP	100	5%	1/10W
R133	1-216-025-91	RES,CHIP	100	5%	1/10W
R141	1-216-081-00	METAL CHIP	22K	5%	1/10W
R142	1-216-081-00	METAL CHIP	22K	5%	1/10W
R143	1-216-049-91	RES,CHIP	1K	5%	1/10W
R144	1-216-097-91	RES,CHIP	100K	5%	1/10W
R145	1-216-121-91	RES,CHIP	1M	5%	1/10W
R151	1-216-049-91	RES,CHIP	1K	5%	1/10W
R152	1-216-049-91	RES,CHIP	1K	5%	1/10W
R153	1-216-049-91	RES,CHIP	1K	5%	1/10W
R161	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R162	1-216-073-00	METAL CHIP	10K	5%	1/10W
R163	1-216-295-91	SHORT	0		
R164	1-216-113-00	METAL CHIP	470K	5%	1/10W
R165	1-216-112-00	RES,CHIP	430K	5%	1/10W
R166	1-216-106-00	METAL CHIP	240K	5%	1/10W
R167	1-216-045-00	METAL CHIP	680	5%	1/10W
R168	1-216-081-00	METAL CHIP	22K	5%	1/10W
R169	1-216-105-91	RES,CHIP	220K	5%	1/10W
R170	1-216-073-00	METAL CHIP	10K	5%	1/10W
R171	1-216-089-91	RES,CHIP	47K	5%	1/10W
R172	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R173	1-216-097-91	RES,CHIP	100K	5%	1/10W
R174	1-216-073-00	METAL CHIP	10K	5%	1/10W
R191	1-216-049-91	RES,CHIP	1K	5%	1/10W
R192	1-216-097-91	RES,CHIP	100K	5%	1/10W
R193	1-216-049-91	RES,CHIP	1K	5%	1/10W
R194	1-216-073-00	METAL CHIP	10K	5%	1/10W
R201	1-216-097-91	RES,CHIP	100K	5%	1/10W
R202	1-216-097-91	RES,CHIP	100K	5%	1/10W
R222	1-216-049-91	RES,CHIP	1K	5%	1/10W
R223	1-216-049-91	RES,CHIP	1K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R224	1-216-049-91	RES,CHIP	1K	5%	1/10W
R245	1-216-109-00	METAL CHIP	330K	5%	1/10W
R260	1-216-089-91	RES,CHIP	47K	5%	1/10W
R261	1-216-094-00	RES,CHIP	75K	5%	1/10W
R262	1-216-089-91	RES,CHIP	47K	5%	1/10W
R263	1-216-094-00	RES,CHIP	75K	5%	1/10W
R264	1-216-101-00	METAL CHIP	150K	5%	1/10W
R265	1-216-101-00	METAL CHIP	150K	5%	1/10W
R267	1-216-097-91	RES,CHIP	100K	5%	1/10W
R271	1-216-097-91	RES,CHIP	100K	5%	1/10W
R274	1-216-073-00	METAL CHIP	10K	5%	1/10W
R275	1-216-073-00	METAL CHIP	10K	5%	1/10W
R276	1-216-073-00	METAL CHIP	10K	5%	1/10W
R277	1-216-073-00	METAL CHIP	10K	5%	1/10W
R278	1-216-073-00	METAL CHIP	10K	5%	1/10W
R279	1-216-073-00	METAL CHIP	10K	5%	1/10W
R281	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R282	1-216-068-00	METAL CHIP	6.2K	5%	1/10W
R283	1-216-068-00	METAL CHIP	6.2K	5%	1/10W
R284	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R285	1-216-097-91	RES,CHIP	100K	5%	1/10W
R286	1-216-073-00	METAL CHIP	10K	5%	1/10W
R287	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R288	1-216-097-91	RES,CHIP	100K	5%	1/10W
R289	1-216-073-00	METAL CHIP	10K	5%	1/10W
R291	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R292	1-216-068-00	METAL CHIP	6.2K	5%	1/10W
R293	1-216-068-00	METAL CHIP	6.2K	5%	1/10W
R294	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R295	1-216-097-91	RES,CHIP	100K	5%	1/10W
R296	1-216-073-00	METAL CHIP	10K	5%	1/10W
R301	1-216-085-00	METAL CHIP	33K	5%	1/10W
R302	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R303	1-216-025-91	RES,CHIP	100	5%	1/10W
R304	1-216-025-91	RES,CHIP	100	5%	1/10W
R305	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R306	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R307	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R308	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R309	1-216-081-00	METAL CHIP	22K	5%	1/10W
R311	1-216-121-91	RES,CHIP	1M	5%	1/10W
R312	1-216-102-00	RES,CHIP	160K	5%	1/10W
R313	1-216-097-91	RES,CHIP	100K	5%	1/10W
R315	1-216-073-00	METAL CHIP	10K	5%	1/10W
R316	1-216-079-00	METAL CHIP	18K	5%	1/10W
R317	1-216-073-00	METAL CHIP	10K	5%	1/10W
R318	1-216-073-00	METAL CHIP	10K	5%	1/10W
R319	1-216-111-00	METAL CHIP	390K	5%	1/10W
R321	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R322	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R341	1-216-094-00	RES,CHIP	75K	5%	1/10W
R342	1-216-094-00	RES,CHIP	75K	5%	1/10W
R343	1-216-089-91	RES,CHIP	47K	5%	1/10W
R344	1-216-089-91	RES,CHIP	47K	5%	1/10W
R345	1-216-089-91	RES,CHIP	47K	5%	1/10W
R346	1-216-049-91	RES,CHIP	1K	5%	1/10W
R347	1-216-065-91	RES,CHIP	4.7K	5%	1/10W

MAIN

Ref. No.	Part No.	Description			Remark
R348	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R351	1-216-085-00	METAL CHIP	33K	5%	1/10W
R352	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R353	1-216-025-91	RES,CHIP	100	5%	1/10W
R354	1-216-025-91	RES,CHIP	100	5%	1/10W
R355	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R356	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R357	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R358	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R359	1-216-085-00	METAL CHIP	33K	5%	1/10W
R371	1-216-045-00	METAL CHIP	680	5%	1/10W
R372	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R373	1-216-045-00	METAL CHIP	680	5%	1/10W
R374	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R375	1-216-089-91	RES,CHIP	47K	5%	1/10W
R376	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R377	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R378	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R379	1-216-045-00	METAL CHIP	680	5%	1/10W
R380	1-216-045-00	METAL CHIP	680	5%	1/10W
R381	1-216-089-91	RES,CHIP	47K	5%	1/10W
R382	1-216-089-91	RES,CHIP	47K	5%	1/10W
R383	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R384	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R385	1-216-045-00	METAL CHIP	680	5%	1/10W
R386	1-216-045-00	METAL CHIP	680	5%	1/10W
R387	1-216-089-91	RES,CHIP	47K	5%	1/10W
R401	1-216-025-91	RES,CHIP	100	5%	1/10W
R402	1-216-085-00	METAL CHIP	33K	5%	1/10W
R411	1-260-089-11	REGISTER	150	5%	1/2W
R412	1-260-089-11	REGISTER	150	5%	1/2W
R413	1-260-313-51	REGISTER	56	5%	1/2W
R414	1-216-049-91	RES,CHIP	1K	5%	1/10W
R415	1-216-073-00	METAL CHIP	10K	5%	1/10W
R416	1-216-089-91	RES,CHIP	47K	5%	1/10W
R417	1-216-049-91	RES,CHIP	1K	5%	1/10W
R418	1-260-089-11	REGISTER	150	5%	1/2W
R419	1-260-089-11	REGISTER	150	5%	1/2W
R431	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R432	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R433	1-216-097-91	RES,CHIP	100K	5%	1/10W
R451	1-216-025-91	RES,CHIP	100	5%	1/10W
R452	1-216-085-00	METAL CHIP	33K	5%	1/10W
R461	1-260-089-11	REGISTER	150	5%	1/2W
R462	1-260-089-11	REGISTER	150	5%	1/2W
R463	1-260-315-51	REGISTER	56	5%	1/2W
R464	1-216-049-91	RES,CHIP	1K	5%	1/10W
R468	1-260-089-11	REGISTER	150	5%	1/2W
R469	1-260-089-11	REGISTER	150	5%	1/2W
R502	1-216-041-00	METAL CHIP	470	5%	1/10W
R503	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R504	1-216-025-91	RES,CHIP	100	5%	1/10W
R505	1-216-089-91	RES,CHIP	47K	5%	1/10W
R506	1-216-089-91	RES,CHIP	47K	5%	1/10W
R507	1-216-073-00	METAL CHIP	10K	5%	1/10W
R508	1-216-033-00	METAL CHIP	220	5%	1/10W
R509	1-216-097-91	RES,CHIP	100K	5%	1/10W
R510	1-216-295-91	SHORT	0		
R511	1-216-109-00	METAL CHIP	330K	5%	1/10W
R513	1-216-295-91	SHORT	0		
R517	1-216-073-00	METAL CHIP	10K	5%	1/10W
R518	1-216-025-91	RES,CHIP	100	5%	1/10W
R519	1-216-025-91	RES,CHIP	100	5%	1/10W
R520	1-216-025-91	RES,CHIP	100	5%	1/10W
			(RXD10AV:AEP,UK,G,CIS)		
R521	1-216-025-91	RES,CHIP	100	5%	1/10W
			(RXD10AV:AEP,UK,G,CIS)		
R522	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R526	1-216-025-91	RES,CHIP	100	5%	1/10W
R527	1-216-025-91	RES,CHIP	100	5%	1/10W
R528	1-216-073-00	METAL CHIP	10K	5%	1/10W
R529	1-216-025-91	RES,CHIP	100	5%	1/10W
R530	1-216-025-91	RES,CHIP	100	5%	1/10W
R532	1-216-025-91	RES,CHIP	100	5%	1/10W
R533	1-216-025-91	RES,CHIP	100	5%	1/10W
R535	1-216-025-91	RES,CHIP	100	5%	1/10W
R536	1-216-025-91	RES,CHIP	100	5%	1/10W
R537	1-216-025-91	RES,CHIP	100	5%	1/10W
R538	1-216-073-00	METAL CHIP	10K	5%	1/10W
R539	1-216-025-91	RES,CHIP	100	5%	1/10W
R542	1-216-025-91	RES,CHIP	100	5%	1/10W
R543	1-216-025-91	RES,CHIP	100	5%	1/10W
R549	1-216-049-91	RES,CHIP	1K	5%	1/10W
R550	1-216-025-91	RES,CHIP	100	5%	1/10W
R551	1-216-025-91	RES,CHIP	100	5%	1/10W
R552	1-216-025-91	RES,CHIP	100	5%	1/10W
R553	1-216-025-91	RES,CHIP	100	5%	1/10W
R554	1-216-025-91	RES,CHIP	100	5%	1/10W
R555	1-216-025-91	RES,CHIP	100	5%	1/10W
R556	1-216-025-91	RES,CHIP	100	5%	1/10W
R557	1-216-025-91	RES,CHIP	100	5%	1/10W
R558	1-216-049-91	RES,CHIP	1K	5%	1/10W
R559	1-216-025-91	RES,CHIP	100	5%	1/10W
R560	1-216-025-91	RES,CHIP	100	5%	1/10W
R561	1-216-025-91	RES,CHIP	100	5%	1/10W
R563	1-216-025-91	RES,CHIP	100	5%	1/10W
R565	1-216-025-91	RES,CHIP	100	5%	1/10W
R566	1-216-025-91	RES,CHIP	100	5%	1/10W
R567	1-216-025-91	RES,CHIP	100	5%	1/10W
R568	1-216-025-91	RES,CHIP	100	5%	1/10W
R569	1-216-025-91	RES,CHIP	100	5%	1/10W
R570	1-216-025-91	RES,CHIP	100	5%	1/10W
R571	1-216-025-91	RES,CHIP	100	5%	1/10W
R572	1-216-073-00	METAL CHIP	10K	5%	1/10W
R573	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R574	1-216-073-00	METAL CHIP	10K	5%	1/10W
R575	1-216-073-00	METAL CHIP	10K	5%	1/10W
R576	1-216-073-00	METAL CHIP	10K	5%	1/10W
R577	1-216-073-00	METAL CHIP	10K	5%	1/10W
R578	1-216-073-00	METAL CHIP	10K	5%	1/10W
R586	1-216-025-91	RES,CHIP	100	5%	1/10W
R587	1-216-025-91	RES,CHIP	100	5%	1/10W
R588	1-216-025-91	RES,CHIP	100	5%	1/10W

Ref. No.	Part No.	Description			Remark
R589	1-216-025-91	RES,CHIP	100	5%	1/10W
R590	1-216-025-91	RES,CHIP	100	5%	1/10W
R591	1-216-025-91	RES,CHIP	100	5%	1/10W
R594	1-216-295-91	SHORT	0		
R595	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R596	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R597	1-216-045-00	METAL CHIP	680	5%	1/10W
					(RXD10AV:AEP,UK,G,CIS)
R597	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
					(GRX90AV:AUS)
R597	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
					(GRX90AV:E2,AR,MX)
R597	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
					(GRX90AV:EA,TH)
R597	1-216-295-91	SHORT	0 (RXD10AV:US,CND)		
R598	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
					(GRX90AV:EA)
R598	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
		(GRX90AV:E2,AR,MX,AUS,TH/RXD10AV:AEP,UK,			
R598	1-216-295-91	SHORT	0	(GRX90AV:E3,SP)	
R901	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R902	1-216-045-00	METAL CHIP	680	5%	1/10W
R903	1-216-138-00	METAL CHIP	3.3	5%	1/8W
R904	1-216-138-00	METAL CHIP	3.3	5%	1/8W
R905	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R906	1-216-043-91	RES,CHIP	560	5%	1/10W
R907	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R908	1-216-073-00	METAL CHIP	10K	5%	1/10W
R909	1-216-075-00	METAL CHIP	12K	5%	1/10W
R910	1-216-073-00	METAL CHIP	10K	5%	1/10W
R912	1-216-295-91	SHORT	0		
R913	1-216-033-00	METAL CHIP	220	5%	1/10W
R914	1-216-295-91	SHORT	0		
R931	1-216-081-00	METAL CHIP	22K	5%	1/10W
R932	1-216-081-00	METAL CHIP	22K	5%	1/10W
R933	1-216-081-00	METAL CHIP	22K	5%	1/10W
R951	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R952	1-216-045-00	METAL CHIP	680	5%	1/10W
R953	1-216-138-00	METAL CHIP	3.3	5%	1/8W
R954	1-216-138-00	METAL CHIP	3.3	5%	1/8W
		< VARIABLE RESISTOR >			
RV301	1-238-600-11	RES, ADJ, CARBON 10K			
RV351	1-238-600-11	RES, ADJ, CARBON 10K			
		< VIBRATOR >			
X510	1-567-098-41	VIBRATOR, CRYSTAL (32.768kHz)			
X513	1-781-107-21	VIBRATOR, SERAMIC (16MHz)			

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*	1-658-578-11	MOTOR (SLIDE) BOARD			
		**********			
		< CAPACITOR >			
C801	1-162-306-11	CERAMIC	0.01uF	20%	16V
C804	1-162-306-11	CERAMIC	0.01uF	20%	16V
C805	1-126-964-11	ELECT	10uF	20%	50V

Ref. No.	Part No.	Description			Remark
		< CONNECTOR >			
* CN801	1-568-947-11	PIN, CONNECTOR 9P			
		< DIODE >			
D801	8-719-109-89	DIODE RD5.6ESB2			
D804	8-719-911-19	DIODE 1SS119			
D805	8-719-911-19	DIODE 1SS119			
		< IC >			
IC801	8-759-274-09	IC BA6286N			
		< RESISTOR >			
R801	1-249-401-11	CARBON	47	5%	1/4W F
		< SWITCH >			
S801	1-762-527-11	SWITCH, ROTARY (OPEN/CLOSE)			

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*	1-658-577-11	MOTOR (TURN) BOARD			
		**********			
		< CAPACITOR >			
C701	1-162-306-11	CERAMIC	0.01uF	20%	16V
C702	1-126-964-11	ELECT	10uF	20%	50V
C705	1-162-306-11	CERAMIC	0.01uF	20%	16V
		< CONNECTOR >			
CN703	1-750-413-11	CONNECTOR, FFC/FPC 8P			
CN704	1-506-469-11	PIN, CONNECTOR 4P			
		< DIODE >			
D701	8-719-109-69	DIODE RD3.6ES-B2			
		< IC >			
IC701	8-759-633-65	IC M54641L			
		< RESISTOR >			
R706	1-249-411-11	CARBON	330	5%	1/4W
R707	1-249-401-11	CARBON	47	5%	1/4W F

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	A-4417-775-A	PANEL BOARD, COMPLETE			
		**********			
	4-214-439-01	HOLDER, FL TUBE			
*	4-949-935-81	CUSHION (FL)(EXCEPT GRX90AV:TH)			
		< CAPACITOR >			
C601	1-124-589-11	ELECT	47uF	20%	16V
C602	1-126-163-11	ELECT	4.7uF	20%	50V
C603	1-162-306-11	CERAMIC	0.01uF	20%	16V
C604	1-162-294-31	CERAMIC	0.001uF		50V
C606	1-126-160-11	ELECT	1uF	20%	50V
C607	1-126-160-11	ELECT	1uF	20%	50V

PANEL

Ref. No.	Part No.	Description			Remark
C610	1-124-589-11	ELECT	47uF	20%	16V
C611	1-162-306-11	CERAMIC	0.01uF	20%	16V
C612	1-162-306-11	CERAMIC	0.01uF	20%	16V
C614	1-162-306-11	CERAMIC	0.01uF	20%	16V
C615	1-162-306-11	CERAMIC	0.01uF	20%	16V
C616	1-126-157-11	ELECT	10uF	20%	16V
C617	1-162-303-11	CERAMIC	0.0033uF	30%	16V
C618	1-126-157-11	ELECT	10uF	20%	16V
C619	1-126-157-11	ELECT	10uF	20%	16V
C620	1-126-163-11	ELECT	4.7uF	20%	50V
C625	1-126-157-11	ELECT	10uF	20%	16V
C627	1-162-306-11	CERAMIC	0.01uF	20%	16V
C628	1-126-157-11	ELECT	10uF	20%	16V
C630	1-162-306-11	CERAMIC	0.01uF	20%	16V
C631	1-162-306-11	CERAMIC	0.01uF	20%	16V
C632	1-162-306-11	CERAMIC	0.01uF	20%	16V
C651	1-162-282-31	CERAMIC	100PF	10%	50V
C652	1-162-282-31	CERAMIC	100PF	10%	50V
C653	1-162-282-31	CERAMIC	100PF	10%	50V
C654	1-162-282-31	CERAMIC	100PF	10%	50V
C655	1-162-282-31	CERAMIC	100PF	10%	50V
C656	1-162-282-31	CERAMIC	100PF	10%	50V
C657	1-162-282-31	CERAMIC	100PF	10%	50V
C658	1-162-282-31	CERAMIC	100PF	10%	50V
C659	1-162-282-31	CERAMIC	100PF	10%	50V
C660	1-162-282-31	CERAMIC	100PF	10%	50V
C661	1-162-282-31	CERAMIC	100PF	10%	50V
C662	1-162-282-31	CERAMIC	100PF	10%	50V
C663	1-162-282-31	CERAMIC	100PF	10%	50V
C664	1-162-282-31	CERAMIC	100PF	10%	50V
C665	1-162-282-31	CERAMIC	100PF	10%	50V
C666	1-162-282-31	CERAMIC	100PF	10%	50V
C667	1-162-282-31	CERAMIC	100PF	10%	50V
C668	1-162-282-31	CERAMIC	100PF	10%	50V
C701	1-162-294-31	CERAMIC	0.001uF	10%	50V
C702	1-162-294-31	CERAMIC	0.001uF	10%	50V
C703	1-162-306-11	CERAMIC	0.01uF	20%	16V
C703	1-164-159-21	CERAMIC	0.1uF		50V
C731	1-162-306-11	CERAMIC	0.01uF	20%	16V
C732	1-124-257-00	ELECT	2.2uF	20%	50V
C733	1-162-294-31	CERAMIC	0.001uF	10%	50V
C734	1-162-215-31	CERAMIC	47PF	5%	50V
C735	1-124-261-00	ELECT	10uF	20%	50V
C736	1-162-290-31	CERAMIC	470PF	10%	50V
C737	1-124-463-00	ELECT	0.1uF	20%	50V
C739	1-162-215-31	CERAMIC	47PF	5%	50V
C741	1-124-261-00	ELECT	10uF	20%	50V
C742	1-162-282-31	CERAMIC	100PF	10%	50V
C743	1-124-257-00	ELECT	2.2uF	20%	50V
C747	1-164-159-21	CERAMIC	0.1uF		50V
		< CONNECTOR >			
CN601	1-784-745-11	CONNECTOR, FFC 23P			
		< DIODE >			
D610	8-719-050-84	DIODE RB441Q-40T-77			

Ref. No.	Part No.	Description	Remark
D611	8-719-073-47	DIODE SML72923C-TP15 (REC/PAUSE START)	
D612	8-719-056-13	DIODE SML79423C-TP15 (CD ▶II)	
D613	8-719-058-03	DIODE SEL5423E-TP15 (TAPE B ►)	
D614	8-719-058-03	DIODE SEL5423E-TP15 (TAPE B ◄)	
D615	8-719-058-03	DIODE SEL5423E-TP15 (TAPE A ►)	
D616	8-719-058-03	DIODE SEL5423E-TP15 (TAPE A ◄)	
D619	8-719-057-97	DIODE SEL5923A-TP15 (SYNC BASS L)	
D620	8-719-057-97	DIODE SEL5923A-TP15 (SYNC BASS H)	
D621	8-719-057-97	DIODE SEL5923A-TP15 (SYNC EQ)	
D622	8-719-063-93	DIODE SLR325VC-N-T32 (EFFECT)	
D624	8-719-063-93	DIODE SLR325VC-N-T32 (ON STOP)	
D625	8-719-057-97	DIODE SEL5923A-TP15 (DSP)	
D626	8-719-057-97	DIODE SEL5923A-TP15 (PRO LOGIC)	
D627	8-719-057-97	DIODE SEL5923A-TP15 (GROOVE)	
D628	8-719-063-93	DIODE SLR325VC-N-T32 (ENTERY NEXT)	
D629	8-719-063-93	DIODE SLR325VC-N-T32 (JOG)	
D630	8-719-057-97	DIODE SEL5923A-TP15 (- ◄◄)	
D631	8-719-057-97	DIODE SEL5923A-TP15 (+ ►►)	
D632	8-719-063-93	DIODE SLR325VC-N-T32 (TIMER SELECT)	
		< GROUND PLATE >	
* EP601	1-537-738-21	TERMINAL, EARTH	
		< FERRITE BEAD >	
FB601	1-412-473-21	INDUCTOR 0UH	
FB602	1-412-473-21	INDUCTOR 0UH	
		< FLUORESCENT INDICATOR >	
FL601	1-517-831-11	INDICATOR TUBE, FLUORESCENT	
		< IC >	
IC601	8-759-589-13	IC TMP88CS76F-6004	
IC602	8-749-011-05	IC GP1U28X	
IC603	8-759-083-77	IC BA3830F	
IC604	8-759-342-19	IC NJU3716M-T2	
IC712	8-759-636-55	IC M5218AFP	
		< JACK >	
J701	1-785-569-11	JACK (SMALL TYPE)	
J711	1-785-569-11	JACK (SMALL TYPE)	
		< COIL >	
L601	1-410-509-11	INDUCTOR 10uH	
L602	1-410-517-11	INDUCTOR 47uH	
		< TRANSISTOR >	
Q601	8-729-118-00	TRANSISTOR 2SB1116-L	
Q602	8-729-118-00	TRANSISTOR 2SB1116-L	
Q603	8-729-119-78	TRANSISTOR 2SC403SP-51	
Q604	8-729-422-57	TRANSISTOR UN4111	
Q605	8-729-422-57	TRANSISTOR UN4111	
Q606	8-729-900-80	TRANSISTOR DTC114ES	
Q607	8-729-900-74	TRANSISTOR DTC143TS	
Q608	8-729-900-74	TRANSISTOR DTC143TS	
Q609	8-729-900-74	TRANSISTOR DTC143TS	
Q610	8-729-900-74	TRANSISTOR DTC143TS	

Ref. No.	Part No.	Description			Remark
Q611	8-729-900-74	TRANSISTOR DTC143TS			
Q612	8-729-900-74	TRANSISTOR DTC143TS			
Q613	8-729-900-74	TRANSISTOR DTC143TS			
		< RESISTOR >			
R600	1-247-903-00	CARBON	1M	5%	1/4W
R601	1-247-807-31	CARBON	100	5%	1/4W
R602	1-249-429-11	CARBON	10K	5%	1/4W
R603	1-247-807-31	CARBON	100	5%	1/4W
R604	1-247-807-31	CARBON	100	5%	1/4W
R605	1-249-429-11	CARBON	10K	5%	1/4W
R606	1-249-401-11	CARBON	47	5%	1/4W F
R607	1-247-893-11	CARBON	390K	5%	1/4W
R608	1-247-893-11	CARBON	390K	5%	1/4W
R609	1-249-441-11	CARBON	100K	5%	1/4W
R610	1-249-429-11	CARBON	10K	5%	1/4W
R611	1-249-441-11	CARBON	100K	5%	1/4W
R612	1-249-401-11	CARBON	47	5%	1/4W F
R613	1-249-435-11	CARBON	33K	5%	1/4W
R614	1-247-895-91	CARBON	470K	5%	1/4W
R615	1-249-429-11	CARBON	10K	5%	1/4W
R616	1-249-441-11	CARBON	100K	5%	1/4W
R617	1-249-441-11	CARBON	100K	5%	1/4W
R618	1-249-441-11	CARBON	100K	5%	1/4W
R619	1-249-441-11	CARBON	100K	5%	1/4W
R620	1-249-441-11	CARBON	100K	5%	1/4W
R621	1-249-429-11	CARBON	10K	5%	1/4W
R622	1-249-410-11	CARBON	270	5%	1/4W F
R623	1-249-411-11	CARBON	330	5%	1/4W
R624	1-249-413-11	CARBON	470	5%	1/4W F
R625	1-249-414-11	CARBON	560	5%	1/4W F
R626	1-249-415-11	CARBON	680	5%	1/4W F
R627	1-249-417-11	CARBON	1K	5%	1/4W F
R628	1-249-418-11	CARBON	1.2K	5%	1/4W F
R629	1-249-420-11	CARBON	1.8K	5%	1/4W F
R630	1-249-422-11	CARBON	2.7K	5%	1/4W F
R631	1-247-843-11	CARBON	3.3K	5%	1/4W
R632	1-249-425-11	CARBON	4.7K	5%	1/4W F
R633	1-249-427-11	CARBON	6.8K	5%	1/4W F
R634	1-249-429-11	CARBON	10K	5%	1/4W
R635	1-249-431-11	CARBON	15K	5%	1/4W
R636	1-249-429-11	CARBON	10K	5%	1/4W
R637	1-249-410-11	CARBON	270	5%	1/4W F
R638	1-249-411-11	CARBON	330	5%	1/4W
R639	1-249-413-11	CARBON	470	5%	1/4W F
R640	1-249-414-11	CARBON	560	5%	1/4W F
R641	1-249-415-11	CARBON	680	5%	1/4W F
R642	1-249-417-11	CARBON	1K	5%	1/4W F
R643	1-249-418-11	CARBON	1.2K	5%	1/4W F
R644	1-249-420-11	CARBON	1.8K	5%	1/4W F
R645	1-249-422-11	CARBON	2.7K	5%	1/4W F
R646	1-247-843-11	CARBON	3.3K	5%	1/4W
R647	1-249-425-11	CARBON	4.7K	5%	1/4W F
R648	1-249-427-11	CARBON	6.8K	5%	1/4W F
R649	1-249-429-11	CARBON	10K	5%	1/4W
R650	1-249-429-11	CARBON	10K	5%	1/4W
R651	1-249-410-11	CARBON	270	5%	1/4W F
R652	1-249-411-11	CARBON	330	5%	1/4W
R653	1-249-413-11	CARBON	470	5%	1/4W F
R654	1-249-414-11	CARBON	560	5%	1/4W F
R655	1-249-415-11	CARBON	680	5%	1/4W F
R656	1-249-429-11	CARBON	10K	5%	1/4W
R657	1-249-410-11	CARBON	270	5%	1/4W F
R658	1-249-411-11	CARBON	330	5%	1/4W
R659	1-249-413-11	CARBON	470	5%	1/4W F
R660	1-249-414-11	CARBON	560	5%	1/4W F
R661	1-249-415-11	CARBON	680	5%	1/4W F
R662	1-249-417-11	CARBON	1K	5%	1/4W F
R663	1-249-418-11	CARBON	1.2K	5%	1/4W F
R664	1-249-420-11	CARBON	1.8K	5%	1/4W F
R665	1-249-422-11	CARBON	2.7K	5%	1/4W F
R666	1-249-417-11	CARBON	1K	5%	1/4W F
R667	1-249-417-11	CARBON	1K	5%	1/4W F
R668	1-249-441-11	CARBON	100K	5%	1/4W
R669	1-249-441-11	CARBON	100K	5%	1/4W
R670	1-249-414-11	CARBON	560	5%	1/4W F
R671	1-249-437-11	CARBON	47K	5%	1/4W
R672	1-249-417-11	CARBON	1K	5%	1/4W F
R673	1-249-437-11	CARBON	47K	5%	1/4W
R674	1-249-417-11	CARBON	1K	5%	1/4W F
R675	1-249-437-11	CARBON	47K	5%	1/4W
R676	1-249-429-11	CARBON	10K	5%	1/4W
R678	1-249-407-11	CARBON	150	5%	1/4W F
R679	1-249-407-11	CARBON	150	5%	1/4W F
R680	1-247-804-11	CARBON	75	5%	1/4W
R681	1-249-407-11	CARBON	150	5%	1/4W F
R682	1-247-804-11	CARBON	75	5%	1/4W
R683	1-247-804-11	CARBON	75	5%	1/4W
R684	1-247-804-11	CARBON	75	5%	1/4W
R685	1-247-804-11	CARBON	75	5%	1/4W
R688	1-249-402-11	CARBON	56	5%	1/4W F
R689	1-249-402-11	CARBON	56	5%	1/4W F
R690	1-249-402-11	CARBON	56	5%	1/4W F
R691	1-249-407-11	CARBON	150	5%	1/4W F
R693	1-249-407-11	CARBON	150	5%	1/4W F
R694	1-249-407-11	CARBON	150	5%	1/4W F
R695	1-249-402-11	CARBON	56	5%	1/4W F
R696	1-249-402-11	CARBON	56	5%	1/4W F
R697	1-249-407-11	CARBON	150	5%	1/4W F
R698	1-249-407-11	CARBON	150	5%	1/4W F
R699	1-247-807-31	CARBON	100	5%	1/4W
R700	1-247-807-31	CARBON	100	5%	1/4W
R701	1-249-429-11	CARBON	10K	5%	1/4W
R702	1-249-429-11	CARBON	10K	5%	1/4W
R703	1-249-429-11	CARBON	10K	5%	1/4W
R704	1-249-429-11	CARBON	10K	5%	1/4W
R705	1-249-429-11	CARBON	10K	5%	1/4W
R721	1-249-429-11	CARBON	10K	5%	1/4W
R722	1-249-417-11	CARBON	1K	5%	1/4W F
R723	1-249-441-11	CARBON	100K	5%	1/4W
R724	1-249-417-11	CARBON	1K	5%	1/4W F
R725	1-247-863-91	CARBON	22K	5%	1/4W
R726	1-249-429-11	CARBON	10K	5%	1/4W
R728	1-247-885-00	CARBON	180K	5%	1/4W

PANEL **SENSOR** **SUB TRANS**

Ref. No.	Part No.	Description			Remark
R729	1-247-807-31	CARBON	100	5%	1/4W
R731	1-249-440-11	CARBON	82K	5%	1/4W
R732	1-249-437-11	CARBON	47K	5%	1/4W
R733	1-249-440-11	CARBON	82K	5%	1/4W
R734	1-249-417-11	CARBON	1K	5%	1/4W F
R735	1-249-420-11	CARBON	1.8K	5%	1/4W F
R741	1-249-421-11	CARBON	2.2K	5%	1/4W F
R742	1-249-421-11	CARBON	2.2K	5%	1/4W F
R743	1-249-405-11	CARBON	100	5%	1/4W F
		< VARIABLE RESISTOR >			
RV712	1-225-739-11	RES, VAR 50K (MIC LEVEL)			
		< SWITCH >			
S601	1-473-534-11	ENCODER, ROTARY (JOG/◀◀ ▬▬ ▶▶)			
S602	1-473-392-11	ENCODER, ROTARY (VOLUME)			
S611	1-762-875-21	SWITCH, KEYBOARD (SYNC BASS)			
S612	1-762-875-21	SWITCH, KEYBOARD (SYNC EQ)			
S613	1-762-875-21	SWITCH, KEYBOARD (KARAOKE PON/MPX)			
S614	1-762-875-21	SWITCH, KEYBOARD (NON STOP)			
S615	1-762-875-21	SWITCH, KEYBOARD (DSP)			
S616	1-762-875-21	SWITCH, KEYBOARD (DBFB)			
S617	1-762-875-21	SWITCH, KEYBOARD (ENTER/NEXT)			
S618	1-762-875-21	SWITCH, KEYBOARD (+ ▶▶)			
S619	1-762-875-21	SWITCH, KEYBOARD (- ◀◀)			
S620	1-762-875-21	SWITCH, KEYBOARD (GROOVE)			
S621	1-762-875-21	SWITCH, KEYBOARD (FLASH)			
S622	1-762-875-21	SWITCH, KEYBOARD (REPEAT STEREO/MONO)			
S623	1-762-875-21	SWITCH, KEYBOARD (PLAY MODE DOLBY NR)			
S624	1-762-875-21	SWITCH, KEYBOARD (EDIT DIRECTION TUNER MEMORY)			
S625	1-762-875-21	SWITCH, KEYBOARD (REC/PAUSE START)			
S626	1-762-875-21	SWITCH, KEYBOARD (HI DUB)			
S627	1-762-875-21	SWITCH, KEYBOARD (CD SYNC)			
S628	1-762-875-21	SWITCH, KEYBOARD (LOOP)			
S629	1-762-875-21	SWITCH, KEYBOARD (DISPLAY)			
S630	1-762-875-21	SWITCH, KEYBOARD (SPECTRUM ANALYZER)			
S636	1-762-875-21	SWITCH, KEYBOARD (DVD)			
S637	1-762-875-21	SWITCH, KEYBOARD (PRO LOGIC)			
S638	1-762-875-21	SWITCH, KEYBOARD (TIMER SELECT)			
S639	1-762-875-21	SWITCH, KEYBOARD (P FILE MEMORY)			
S640	1-762-875-21	SWITCH, KEYBOARD (GEQ CONTROL)			
S641	1-762-875-21	SWITCH, KEYBOARD (FILE SELECTOR)			
S642	1-762-875-21	SWITCH, KEYBOARD (EFFECT)			
S643	1-762-875-21	SWITCH, KEYBOARD (TUNER/BAND)			
S644	1-762-875-21	SWITCH, KEYBOARD (CD ▶II)			
S645	1-762-875-21	SWITCH, KEYBOARD (■)			
S646	1-762-875-21	SWITCH, KEYBOARD (TAPE B ►)			
S647	1-762-875-21	SWITCH, KEYBOARD (TAPE B ◄)			
S648	1-762-875-21	SWITCH, KEYBOARD (TAPE A ►)			
S649	1-762-875-21	SWITCH, KEYBOARD (TAPE A ◄)			
S650	1-762-875-21	SWITCH, KEYBOARD (FUNCTION)			
S651	1-762-875-21	SWITCH, KEYBOARD (CLOCK TIMER SET)			
		< VIBRATOR >			
X601	1-781-312-11	VIBRATOR, CERAMIC (12.5MHz)			

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Ref. No.	Part No.	Description			Remark
*	1-658-576-11	SENSOR BOARD **********			
		< IC >			
IC702	8-749-924-18	IC PHOTO INTERRUPTER RPI-1391			
IC703	8-749-924-30	IC PHOTO REFLECTOR GP2S28			

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	A-4419-128-A	SUB TRANS BOARD, COMPLETE (CND) **********			
	A-4419-198-A	SUB TRANS BOARD, COMPLETE (US) **********			
	A-4419-199-A	SUB TRANS BOARD, COMPLETE (AEP,UK,G,CIS) **********			
		< CAPACITOR >			
C11	1-126-768-11	ELECT	2200uF	20%	16V
C12	1-164-159-21	CERAMIC	0.1uF		50V
C13	1-126-933-11	ELECT	100uF	20%	16V
C14	1-126-968-11	ELECT	100uF	20%	50V
C15	1-164-159-21	CERAMIC	0.1uF		50V
C16	1-126-948-11	ELECT	100uF	20%	35V
C21	1-113-925-11	CERAMIC	0.01uF	20%	250V
		< CONNECTOR >			
CN11	1-564-321-00	PIN, CONNECTOR 2P (RXD10AV)			
* CN12	1-564-321-21	PIN, CONNECTOR 2P (RXD10AV)			
CN13	1-785-333-11	PIN, CONNECTOR (LIGHT ANGLE) 7P			
		< DIODE >			
D11	8-719-991-33	DIODE 1SS133T-77			
D12	8-719-210-21	DIODE 11EQS04			
D13	8-719-210-21	DIODE 11EQS04			
D14	8-719-210-21	DIODE 11EQS04			
D15	8-719-210-21	DIODE 11EQS04			
D16	8-719-991-33	DIODE 1SS133T-77			
D17	8-719-200-82	DIODE 11ES2			
D18	8-719-200-82	DIODE 11ES2			
D19	8-719-200-82	DIODE 11ES2			
D20	8-719-200-82	DIODE 11ES2			
D21	8-719-936-43	DIODE HZS27-3LTD			
D22	8-719-109-63	DIODE RD3.0ESB2			
D23	8-719-991-33	DIODE 1SS133T-77			
		< IC >			
IC11	8-759-450-47	IC BA05T			
		< TRANSISTOR >			
Q11	8-729-119-78	TRANSISTOR 2SC403SP-51			
Q12	8-729-040-19	TRANSISTOR RT1N137L-TP			
Q13	8-729-118-01	TRANSISTOR 2SB1116			
Q14	8-729-048-13	TRANSISTOR 2SC3616-KLM			
Q15	8-729-048-13	TRANSISTOR 2SC3616-KLM			
Q16	8-729-900-63	TRANSISTOR DTA124ES			
Q17	8-729-900-63	TRANSISTOR DTA124ES			

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R11	1-249-429-11	CARBON	10K	5%	1/4W
R12	1-249-441-11	CARBON	100K	5%	1/4W
R13	1-249-417-11	CARBON	1K	5%	1/4W F
R15	1-249-429-11	CARBON	10K	5%	1/4W
R16	1-247-807-31	CARBON	100	5%	1/4W
R17	1-247-807-31	CARBON	100	5%	1/4W
R18	1-247-807-31	CARBON	100	5%	1/4W
R19	1-249-427-11	CARBON	6.8K	5%	1/4W F
R20	1-249-429-11	CARBON	10K	5%	1/4W
R23	1-249-427-11	CARBON	6.8K	5%	1/4W F
		< RELAY >			
RY11	1-755-275-11	RELAY, AC POWER (RXD10AV:CND)			
RY11	1-755-276-11	RELAY, POWER (RXD10AV:US,AEP,UK,G,CIS)			
**********					
*	1-672-369-11	TRANS BOARD			
		**********			
		< CAPACITOR >			
C971	1-128-563-11	ELECT	100uF	20%	100V (GRX90AV)
C972	1-126-960-11	ELECT	1uF	20%	50V (GRX90AV)
C973	1-126-948-11	ELECT	100uF	20%	35V (GRX90AV)
		< CONNECTOR >			
CN951	1-564-321-00	PIN, CONNECTOR 2P			
* CN952	1-564-526-11	PLUG, CONNECTOR 11P (RXD10AV)			
* CN952	1-564-527-11	PLUG, CONNECTOR 12P (GRX90AV)			
CN971	1-785-329-11	PIN, CONNECTOR (LIGHT ANGLE) 3P			(GRX90AV)
		< DIODE >			
D971	8-719-200-82	DIODE 11ES2 (GRX90AV)			
D972	8-719-936-43	DIODE HZS27-3LTD (GRX90AV)			
D973	8-719-109-63	DIODE RD3.0ESB2 (GRX90AV)			
		< FUSE >			
⚠F951	1-532-464-31	FUSE (T2.5AL/250V) (AEP,UK,G,CIS)			
⚠F951	1-532-505-31	FUSE (T5AL/250V) (E2,E3,EA,SP,AR,MX)			
⚠F951	1-533-310-11	FUSE (6.3A/125V) (US,CND)			
⚠F952	1-532-464-31	FUSE (T3.15AL/250V) (AUS)			
⚠F952	1-532-465-31	FUSE (T3.15AL/250V) (E2,E3,EA,SP,AR,TH)			
⚠F953	1-532-464-31	FUSE (T2.5AL/250V) (E2,E3,EA,SP,AR,AUS)			
⚠F961	1-533-311-11	FUSE (8A/125V) (US,CND)			
⚠F961	1-533-949-31	FUSE (T8AL/250V) (EXCEPT US,CND)			
⚠F962	1-533-311-11	FUSE (8A/125V) (US,CND)			
⚠F962	1-533-949-31	FUSE (T8AL/250V) (EXCEPT US,CND)			
		< FUSE HOLDER >			
FH901	1-533-217-31	HOLDER, FUSE (EXCEPT AUS,TH)			
FH902	1-533-217-31	HOLDER, FUSE (E2,E3,EA,SP,AR,TH)			
FH903	1-533-217-31	HOLDER, FUSE (E2,E3,EA,SP,AR,AUS)			
FH911	1-533-217-31	HOLDER, FUSE			
FH912	1-533-217-31	HOLDER, FUSE			

Ref. No.	Part No.	Description			Remark
FH951	1-533-217-31	HOLDER, FUSE (EXCEPT AUS,TH)			
FH952	1-533-217-31	HOLDER, FUSE (E2,E3,EA,SP,AR,TH)			
FH953	1-533-217-31	HOLDER, FUSE (E2,E3,EA,SP,AR,AUS)			
FH961	1-533-217-31	HOLDER, FUSE			
FH962	1-533-217-31	HOLDER, FUSE			
		< TRANSISTOR >			
Q971	8-729-048-52	TRANSISTOR 2SA1932(TP)(GRX90AV)			
		< RESISTOR >			
⚠R951	1-219-122-91	FUSIBLE	0.33	5%	1/4W F
⚠R952	1-219-122-91	FUSIBLE	0.33	5%	1/4W F
⚠R953	1-219-119-81	FUSIBLE	0.1	5%	1/4W F
⚠R961	1-202-725-00	SOLID	3.3M	10%	1/2W (RXD10AV:US,CND)
⚠R971	1-216-479-11	METAL OXIDE	560	5%	3W F (GRX90AV)
R972	1-249-429-11	CARBON	10K	5%	1/4W (GRX90AV)
R973	1-249-429-11	CARBON	10K	5%	1/4W (GRX90AV)
R974	1-247-807-31	CARBON	100	5%	1/4W (GRX90AV)
R975	1-247-807-31	CARBON	100	5%	1/4W (GRX90AV)
		< SWITCH >			
⚠S951	1-771-291-11	SWITCH, POWER (VOLTAGE SELECTOR)			(GRX90AV)
⚠S951	1-771-291-31	SWITCH, POWER (VOLTAGE SELECTOR)			(GRX90AV)
**********					
		MISCELLANEOUS			
		**********			
5	1-233-545-11	TUNER UNIT (FM/AM)(AR,MX,AUS,TH)			
5	1-233-546-11	TUNER UNIT (FM/MW/SW)(E3,EA,SP)			
5	1-693-443-11	TUNER UNIT (FM/AM)(AEP,UK,G,CIS)			
5	1-693-445-11	TUNER UNIT (FM/AM)(US,CND)			
5	1-693-453-11	TUNER UNIT (FM/AM)(E2)			
54	1-783-570-11	WIRE (FLAT TYPE)(19 CORE)			
55	1-769-976-11	WIRE (FLAT TYPE)(13 CORE)(140 mm)			
55	1-773-008-11	WIRE (FLAT TYPE)(15 CORE)			
56	1-773-049-11	WIRE (FLAT TYPE)(17 CORE)			
58	1-569-007-11	ADAPTOR, CONVERSION 2P (E3)			
58	1-569-008-21	ADAPTOR, CONVERSION 2P (EA,SP)			
58	1-770-019-11	ADAPTOR, CONVERSION PLUG 3P (UK)			
⚠59	1-575-651-11	CORD, POWER (AEP,UK,G,CIS,EA,SP)			
⚠59	1-575-653-11	CORD, POWER (E2,E3,MX,TH)			
⚠59	1-690-608-11	CORD, POWER (AUS)			
⚠59	1-690-609-21	CORD, POWER (CND)			
⚠59	1-783-531-21	CORD, POWER (US)			
⚠59	1-783-941-21	CORD, POWER (AR)			
62	1-773-023-11	WIRE (FLAT TYPE)(15 CORE)(310 mm)			
116	1-773-189-11	WIRE (FLAT TYPE)(23 CORE)			
121	1-674-232-11	PUSH CATCH STOP BOARD			
257	1-452-925-21	MAGNET ASSY			
258	1-776-042-11	WIRE (FLAT TYPE) (8 CORE)			

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
⚠301	8-820-020-02	OPTICAL PICK-UP KSS-213D/Q-NP	
302	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)	
FL601	1-517-831-11	INDICATOR TUBE, FLUORESCENT	
HP101	A-2056-681-A	DECK (A) ASSY, HEAD (230AWR2)	
HP101	A-2056-683-A	DECK (A) ASSY, HEAD (230PWR2)	
HRPE101	A-2056-682-A	DECK (B) ASSY, HEAD (230AWR2)	
HRPE101	A-2056-684-A	DECK (B) ASSY, HEAD (230PWR2)	
M1	A-2004-628-A	MOTOR ASSY, CAPSTAN	
M101	X-4917-523-3	MOTOR ASSY (SPINDLE)	
M102	X-4917-504-1	MOTOR ASSY (SLED)	
M701	A-4672-004-A	MOTOR ASSY (TURN)	
M901	1-698-792-11	FAN, DC (RXD10AV)	
M901	1-763-072-11	FAN, DC (GRX90AV)	
S811	1-473-335-11	ENCODER, ROTARY	
⚠T11	1-433-590-11	TRANSFORMER, POWER (US,CND)	
⚠T11	1-433-591-11	TRANSFORMER, POWER (AEP,UK,G,CIS)	
⚠T951	1-433-552-11	TRANSFORMER, POWER (US)	
⚠T951	1-433-553-11	TRANSFORMER, POWER (CND)	
⚠T951	1-433-554-11	TRANSFORMER, POWER (AEP,UK,G,CIS)	
⚠T951	1-433-555-11	TRANSFORMER, POWER (E2,E3,EA,SP,AR,MX,AUS,TH)	

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****
HARDWARE LIST
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#1	7-685-871-01	SCREW +BVTT 3X6 (S)
#2	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S
#3	7-685-880-09	SCREW +BVTT 4X6 (S)
#4	7-685-650-79	SCREW +BVTP 3X16 TYPE2 IT-3
#5	7-685-852-04	SCREW +BVTT 2X5 (S)
#7	7-682-553-04	SCREW +P 3X20
#8	7-685-851-04	SCREW +BVTT 2X4 (S)
#9	7-628-254-15	SCREW +PS 2.6X6
#10	7-628-254-50	SCREW +PS 2.6X16
#11	7-685-861-01	SCREW +BVTT 2.6X5 (S)
#12	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

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